DEPARTMENT OF THE NAVY
FY 1999 AMENDED BUDGET ESTIMATES

JUSTIFICATION OF ESTIMATES
FEBRUARY 1998

NAVY WORKING CAPITAL FUND

Table of Contents

Department of the Navy
Navy Working Capital Fund

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND (NWCF)
FY 1999 AMENDED BUDGET ESTIMATES

The Department of the Navy (DON) has long operated a significant number of organic supply and industrial type facilities under revolving fund concepts to encourage these activities to function in a business-like and efficient manner and to provide the flexibility needed to manage these functions under changing workload conditions. The Navy Working Capital Fund budget for FY 1999 includes operating costs totaling nearly $20 billion for seven activity groups. Rates have been set to cover budgeted costs and achieve a zero Accumulated Operating Result (AOR) by the end of the budget year. Additionally, the DON's three year cash recovery plan continues with a $146 million cash surcharge included in FY 1999 rates. The NWCF cash corpus is budgeted to be at a sufficient level to cover day-to-day operations and eliminate all advance billing balances by the end of FY 1999.

The FY 1999 budget builds upon the Ordnance activity group restructuring budgeted in FY 1998. The responsibility for East Coast base operations has been transferred to the Atlantic Fleet with the provision of appropriate services to be performed by Public Works Centers. Approximately $105 million in operating costs and approximately 1,100 military and civilian personnel were transferred. Additionally, the Naval Warfare Assessment Division has been transferred from Ordnance to the Research and Development activity group of the NWCF. This transfer will consolidate similar functions within the NWCF, leading to further restructuring and efficiencies in the future. Due to the continued efforts of the Department to reduce infrastructure, this budget also incorporates a test pilot project which merges the Intermediate Maintenance Facility (IMF) and Naval Shipyard, Pearl Harbor into one unified, mission funded activity under Commander in Chief, Pacific Fleet. This consolidation will expedite efforts to regionalize maintenance infrastructure, ensure that sailors at the IMF are adequately trained for battle force maintenance, establish uniform management procedures and institute a single financial system compatible with the current financial structure supporting fleet maintenance and fleet operations. The budgets for depot maintenance activities reflect a new policy which eliminates unbudgeted losses or gains during the execution year through the use of surcharges (positive or negative) to their customers.

The NWCF capital program reflects the capitalization of supply and logistics systems which were previously funded by the Joint Logistics Service Center (JLSC).

Department of the Navy NWCF activity groups are:

Supply Operations: Provides inventory management functions for shipboard and aviation repairable and consumable items, management of overseas Fleet Industrial

Supply Centers and miscellaneous support functions for ashore and fleet commanders.

Depot Maintenance:

Shipyards: Consists of four active shipyards, while another four have closed as a result of Base Realignment and Closure Decisions. In accordance with Congressional expectations to conduct a two year test of the Navy Regional Maintenance concept, Pearl Harbor Naval Shipyard is consolidated with the Intermediate Maintenance Facility in a pilot test project, as a mission funded entity beginning October 1, 1998. Workload, measured in terms of direct labor hours, declines by nearly eleven percent from FY 1997 to FY 1998 and by three percent from FY 1998 to FY 1999 with Pearl Harbor Naval Shipyard removed.

Aviation Depots: Consists of three active aviation depots, while another three have closed. Workload, measured in terms of direct labor hours, increases by over four percent from FY 1997 to FY 1998 and increases by nearly two percent from FY 1998 to FY 1999 as the depots work to decrease aircraft backlog. Additional budgeted workload will be accomplished without any additional civilian personnel end strength through prudent use of contractor support and improving direct to indirect labor ratios.

Marine Corps Depots: Consists of one east coast and one west coast depot facility which perform inspection, repair, rebuild and modification of all types of ground combat and combat support equipment used by the Marine Corps and other DoD services.

Ordnance: Consists of five weapons stations which become organized into two lead weapons support facilities, with detachments, in FY 1998. Civilian strength declines from about 3,700 at the end of FY 1997 to about 1,500 in the budget years due to the transfer of east coast base management responsibilities to CINCLANTFLT and Public Works Centers and the transfer of the Naval Warfare Assessment Division to the Naval Surface Warfare Center.

Transportation: Military Sealift Command (MSC) operates service unique Naval Fleet Auxiliary Force (NFAF) vessels which provide civilian manned non-combat material support to the fleet, Special Mission Ships (SMS) which provide unique seagoing platforms and Afloat Prepositioning Force (APF) ships which deploy advance material for strategic lifts. MSC manages these vessels from five area and three sub-area commands around the world.

Research and Development: Consists of the Naval Research Laboratory and four Warfare Centers that perform a wide range of research, development, test, evaluation, and engineering support functions. Civilian staffing at these activities

declines by over three percent from FY 1997 through FY 1999, excluding the transfer in of the Naval Warfare Assessment Division from the Naval Ordnance group.

Information Services: Consists of computer and telecommunications activities, the Fleet Material Support Office and the Naval Reserve Information Systems Office in New Orleans, Louisiana which provide automated information systems services and design support.

Base Support:

Public Works Centers: Consists of nine Public Works Centers, plus a detachment at Philadelphia, PA, which provide utilities services, facilities maintenance, transportation support, engineering services and shore facilities planning support required by operating forces and other activities.

Naval Facilities Engineering Center: The activity, located in Port Hueneme, California provides the Navy with specialized facilities engineering and technology support.

Cost: (Operating)

Total obligations for Supply functions and cost of goods and services sold for industrial functions are as follows:

	(dollars in millions)		
	FY 1997	FY 1998	FY 1999
Supply - Navy	5151.6	6420.5	5743.0
Supply - Marine Corps	149.6	162.5	156.8
Depot Maintenance - Ships	2,576.9	2,121.1	2,019.5
Depot Maintenance - Aircraft	1,400.5	1591.3	1672.3
Depot Maintenance - Marine Corps	148.9	170.0	143.0
Ordnance	539.1	253.1	211.1
R&D - Air Warfare Center	2,326.3	1,968.1	2,003.9
R&D - Surface Warfare Center	2,390.5	2,426.8	2,358.9
R&D - Undersea Warfare Center	821.2	735.9	693.7
R&D - NCCOSC	1,086.4	951.5	938.2
R&D - Naval Research Laboratory	512.6	547.1	562.1
Transportation - MSC	1,186.4	1,157.0	1,215.3
Information Services - NCTC	163.6	122.7	118.2
Information Services - FMSO	82.8	71.2	71.6
Information Services - NRISO	13.1	18.6	18.9
Base Support - PWC	2,013.3	1753.6	1,679.9
Base Support - NFESC	62.4	68.2	61.7
Totals	20,625.2	20,539.2	19,668.1

Net Operating Results:

Revenue, excluding surcharge collections, less the cost of goods and services sold to customers is as follows:

(dollars in millions)

	FY 1997	FY 1998	FY 1999
Supply - Navy	-209.5	30.6	65.9
Supply - Marine Corps	9.7	3.1	16.6
Depot Maintenance - Ships	-3.4	69.8	4.0
Depot Maintenance - Aircraft	18.7	-91.2	-13.8
Depot Maintenance - Marine Corps	5.1	.9	.8
Ordnance	-50.9	179.1	-.3
R&D - Air Warfare Center	-13.4	20.6	8.7
R&D - Surface Warfare Center	-34.8	51.2	1.7
R&D - Undersea Warfare Center	-6.8	-3.4	6.2
R&D - NCCOSC	6.4	-13.1	-6.9
R&D - Naval Research Laboratory	4.8	-20.9	-14.7
Transportation - MSC	-45.3	56.9	-23.6
Information Services - NCTC	-11.1	5.4	3.5
Information Services - FMSO	-4.2	-2.7	-.2
Information Services - NRISO	-.7	0	-3.3
Base Support - PWC	1.2	-23.6	2.5
Base Support - NFESC	0	-.4	-.8
Totals	-334.2	262.3	46.3

Accumulated Operating Results:

(dollars in millions)

	FY 1997	FY 1998	FY 1999
Supply - Navy	-96.6	-65.9	.0
Supply - Marine Corps	40.8	43.9	.0
Depot Maintenance - Ships	-73.8	-4.0	.0
Depot Maintenance - Aircraft	34.1	13.8	.0
Depot Maintenance - Marine Corps	-1.7	-1.0	.0
Ordnance	-210.2	.3	.0
R&D - Air Warfare Center	-29.3	-8.7	.0
R&D - Surface Warfare Center	-27.9	-1.7	.0
R&D - Undersea Warfare Center	-2.8	-6.2	.0
R&D - NCCOSC	20.0	6.9	.0
R&D - Naval Research Laboratory	35.5	14.7	.0
Transportation - MSC	-33.3	23.6	.0
Information Services - NCTC	-9.0	-3.5	.0
Information Services - FMSO	2.9	.2	.0
Information Services - NRISO	3.3	3.3	.0
Base Support - PWC	27.6	-2.5	.0
Base Support - NFESC	1.2	.8	.0
Totals	-319.2	14.0	.0

Workload:

Workload projections for NWCF activities reflect the decline in Navy force structure and attendant support levels. The table below displays year to year percentage changes in direct labor hours and transportation ship days for the industrial business areas. For supply, workload changes are indicated by net sales.

	(percent change) FY 1998	FY 1999
Supply - Navy	13.2%	-17.4%
Supply - Marine Corps	-6.8%	4.4%
Depot Maintenance - Ships	-10.9%	-3.0%
Depot Maintenance - Aircraft	4.4%	1.6%
Depot Maintenance - Marine Corps	2.0%	-22.2%
Ordnance	-52.9%	-5.1%
R&D - Air Warfare Center	-6.5%	-1.6%
R&D - Surface Warfare Center	3.3%	-1.4%
R&D - Undersea Warfare Center	-3.6%	-1.8%
R&D - NCCOSC	.9%	-0.9%
R&D - Naval Research Laboratory	-3.3%	0.1%
Transportation - MSC	.6%	4.7%
Information Services - NCTC	.4%	-0.1%
Information Services - FMSO	-1.1%	0.0%
Information Services - NRISO	9.7%	3.3%
Base Support - PWC	-6.1%	-3.1%
Base Support - NFESC	-6.2%	0.0%

Customer Rate Changes

Composite rate changes previously approved from FY 1997 to FY 1998 and proposed rated changes from FY 1998 to FY 1999 designed to achieve an accumulated operating result of zero at the end of FY 1999 are as follows:

	(percent change) FY 1998	FY 1999
Supply - Navy	26.3	-5.8
Supply - Marine Corps	18.1	3.6
Depot Maintenance - Ships	19.6	-12.1
Depot Maintenance - Aircraft (composite)	-2.6	6.5
Depot Maintenance - Marine Corps	-5.5	6.3
Ordnance		
Navy RSSI	335.1	-70.4
Non-Navy RSSI		3.7
All other	1.8	-3.8
R&D - Air Warfare Center	4.2	3.2
R&D - Surface Warfare Center	8.1	1.6
R&D - Undersea Warfare Center	1.7	3.0

R&D - NCCOSC	-0.7	1.7
R&D - Naval Research Laboratory	-0.1	4.9
Transportation - MSC		
Fleet Auxiliary	41.1	-20.8
Special Mission	3.0	6.9
Afloat Preposioning Ships	9.6	-6.8
Information Services - NCTC	29.1	-11.4
Information Services - FMSO	6.3	1.6
Information Services - NRISO	NA	-24.3
Base Support - PWC		
East Coast Utilities	-4.9	-12.6
East Coast - Other	3.1	3.2
West Coast Utilities	2.8	-0.6
West Coast - Other	-1.0	2.4
Base Support - NFESC	2.1	-0.6

Unit Costs:

Unit Cost is the method established to authorize and control costs. Unit cost goals allow activities to respond to work load changes in execution encouraging reduced costs when work load declines and allowing increased costs when additional services are requested by their customers.

	Unit Cost FY 1998	Unit Cost FY 1999
Supply - Navy (cost per unit of sales):		
Wholesale	.89	.86
Retail	1.06	1.01
Supply - Marine Corps (cost per unit of sales):		
Wholesale	.97	.74
Retail	.98	.98
Depot Maintenance - Ships $ per Direct Labor Hour	82.47	81.07
Depot Maintenance - Aircraft $ per Direct Labor Hour	125.08	128.33
Depot Maintenance - Marine Corps $ per Dir Labor Hr	68.53	74.18
Ordnance $ per Direct Labor Hour	113.66	99.65
R&D - Air Warfare Center $ per Direct Labor Hour*	84.47	86.16
R&D - Surface Warfare Center $ per Direct Labor Hour*	65.40	67.69
R&D - Undersea Warfare Center $ per Direct Labor Hour*	69.36	69.72
R&D - NCCOSC $ per Direct Labor Hour*	74.75	75.42
R&D - Naval Research Lab $ per Direct Labor Hour*	84.32	86.42
Transportation - MSC		
NFAF cost per day $	41,296	45,191
SMS cost per day $	16,824	15,393
APF cost per day $	75,741	72,593
Information Services - NCTC $ per Direct Labor Hour*	61.15	51.27
Information Services - FMSO $ per Direct Labor Hour*	51.18	52.28

Information Services - NRISO $ per Direct Labor Hour*	51.67	52.65
Base Support - PWC Cost of services	various	various
Base Support - NFESC $ per Direct Labor Hour	175.15	158.55

* includes direct labor plus overhead $

Staffing:

Total personnel (both civilian and military) employed at NWCF activities are as follows: (strength in thousands)

Civilian End Strength	FY 1997	FY 1998	FY 1999
Supply - Navy	7.5	7.2	6.9
Supply - Marine Corps	.1	.1	.1
Depot Maintenance - Ships	22.0	21.1	19.3
Depot Maintenance - Aircraft	11.8	12.0	12.0
Depot Maintenance - Marine Corps	1.8	1.8	1.5
Ordnance	3.7	1.5	1.4
R&D - Air Warfare Center	13.0	12.8	12.4
R&D - Surface Warfare Center	15.7	16.8	16.5
R&D - Undersea Warfare Center	4.5	4.5	4.4
R&D - NCCOSC	5.1	5.0	5.0
R&D - Naval Research Laboratory	3.2	3.2	3.1
Transportation - MSC	4.3	4.3	4.6
Information Services - NCTC	1.1	1.1	1.1
Information Services - FMSO	.9	.9	.9
Information Services - NRISO	.1	.1	.1
Base Support - PWC	11.6	11.7	11.4
Base Support - NFESC	.3	.3	.3
Totals	106.6	104.2	110.9

Civilian Workyears (regular time)	FY 1997	FY 1998	FY 1999
Supply - Navy	7.5	7.3	7.1
Supply - Marine Corps	.1	.1	.1
Depot Maintenance - Ships	23.1	21.1	19.5
Depot Maintenance - Aircraft	11.8	11.9	11.9
Depot Maintenance - Marine Corps	1.9	1.8	1.5
Ordnance	4.0	1.5	1.4
R&D - Air Warfare Center	13.8	12.9	12.5
R&D - Surface Warfare Center	16.0	16.8	16.5
R&D - Undersea Warfare Center	4.9	4.6	4.5
R&D - NCCOSC	5.0	5.0	5.0
R&D - Naval Research Laboratory	3.1	3.1	3.0
Transportation - MSC	5.5	5.6	5.9
Information Services - NCTC	1.1	1.1	1.1
Information Services - FMSO	.9	.9	.9
Information Services - NRISO	.1	.1	.1

Base Support - PWC	12.5	11.8	11.4
Base Support - NFESC	.3	.3	.3
Totals	111.6	105.9	102.7

Military Personnel End Strength	FY 1997	FY 1998	FY 1999
Supply - Navy	.5	.5	.5
Supply - Marine Corps	.0	.0	.0
Depot Maintenance - Ships	.2	.2	.2
Depot Maintenance - Aircraft	.1	.1	.1
Depot Maintenance - Marine Corps	.*	.*	.*
Ordnance	.6	.7	.4
R&D - Air Warfare Center	.3	.4	.3
R&D - Surface Warfare Center	.3	.3	.3
R&D - Undersea Warfare Center	.*	.1	.1
R&D - NCCOSC	.1	.1	.1
R&D - Naval Research Laboratory	.1	.1	.1
Transportation - MSC	1.0	1.0	1.0
Information Services - NCTC	.*	.*	.*
Information Services - FMSO	.*	.*	.*
Information Services - NRISO	.0	.0	.0
Base Support - PWC	.1	.1	.1
Base Support - NFESC	.*	.*	.*
Totals	3.5	3.6	3.2

*less than fifty

Military Workyears	FY 1997	FY 1998	FY 1999
Supply - Navy	.5	.5	.5
Supply - Marine Corps	.0	.0	.0
Depot Maintenance - Ships	.2	.2	.2
Depot Maintenance - Aircraft	.2	.1	.1
Depot Maintenance - Marine Corps	.*	.*	.*
Ordnance	.4	.7	.4
R&D - Air Warfare Center	.4	.4	.3
R&D - Surface Warfare Center	.3	.3	.3
R&D - Undersea Warfare Center	.2	.1	.1
R&D - NCCOSC	.1	.1	.1
R&D - Naval Research Laboratory	.1	.1	.1
Transportation - MSC	1.1	1.0	1.0
Information Services - NCTC	.*	.*	.*
Information Services - FMSO	.*	.*	.*
Information Services - NRISO	.0	.0	.0
Base Support - PWC	.1	.1	.1
Base Support - NFESC	.*	.*	.*
Totals	3.6	3.6	3.2

* less than fifty

Capital Budget:

	FY 1997	FY 1998	FY 1999
Supply - Navy	27.8	42.2	31.9
Supply - Marine Corps	.0	.8	.0
Depot Maintenance - Ships	47.6	47.3	40.4
Depot Maintenance - Aircraft	46.0	39.9	48.8
Depot Maintenance - Marine Corps	4.3	4.3	5.2
Ordnance	8.7	6.3	3.6
R&D - Air Warfare Center	36.0	39.1	37.0
R&D - Surface Warfare Center	31.1	37.2	33.0
R&D - Undersea Warfare Center	22.6	21.4	20.3
R&D - NCCOSC	8.8	8.3	16.4
R&D - Naval Research Laboratory	10.9	15.3	16.0
Transportation - MSC	1.3	1.2	.5
Information Services - NCTC	.0	1.0	.0
Information Services - FMSO	.5	.5	.5
Information Services - NRISO	.0	.0	.0
Base Support - PWC	16.2	18.1	16.3
Base Support - NFESC	.1	1.3	.5
Totals	262.0	284.2	270.4

The above capital investment program by major category is as follows:

	FY 1997	FY 1998	FY 1999
Equipment (Non-ADPE/Telecom)	122.7	109.8	101.4
ADPE and Telecommunications Equip	87.8	83.0	75.6
Software Development	24.6	66.6	70.2
Minor Construction	26.9	24.8	23.2
Totals	262.0	284.2	270.4

FY 1999 PRESIDENT'S BUDGET ESTIMATES
DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
DEPOT MAINTENANCE - NAVAL SHIPYARDS

ACTIVITY GROUP FUNCTION:

Naval Shipyards provide logistic support for assigned ships and service craft; perform authorized work in connection with construction, overhaul, repair, alteration, dry-docking and outfitting of ships and craft as assigned; perform design, manufacturing, refit and restoration, research, development and test work, and provide services and material to other activities and units as directed by competent authority.

ACTIVITY GROUP COMPOSITION:

This budget reflects four Naval shipyards operating in the Navy Working Capital Fund (NWCF) in FY 1997-1998 and three operating in the NWCF in FY 1999. In accordance with Congressional expectations to conduct a two year test of the Navy Regional Maintenance concept, Pearl Harbor Naval Shipyard is consolidated with the Intermediate Maintenance Facility in a pilot test project, as a mission funded entity beginning October 1, 1998. The Commander, Naval Sea Systems Command, will retain technical authority for the new maintenance activity while the Commander In Chief, U.S. Pacific Fleet will become the owner and claimant. FY 1999 estimates in this budget for Pearl Harbor Naval Shipyard reflect only completion of work begin in prior years.

The activities included in this submission, and their locations are:

Portsmouth Naval Shipyard	Kittery, ME
Norfolk Naval Shipyard	Portsmouth, VA
Puget Sound Naval Shipyard	Bremerton, WA
Pearl Harbor Naval Shipyard	Pearl Harbor, HI

The following activities have been closed and the budget reflects only residual accounting on their behalf:

Ex-Mare Island Naval Shipyard	Vallejo, CA
Ex-Charleston Naval Shipyard	Charleston, SC
Ex-Philadelphia Naval Shipyard	Philadelphia, PA
Ex-Long Beach Naval Shipyard	Long Beach, CA

OVERVIEW FOR NAVAL SHIPYARDS:

The Navy is planning a large-scale pilot for depot and intermediate maintenance activity consolidation, under the Navy's Regional Maintenance initiative in Pearl Harbor effective 1 October 1998. This budget also reflects the planned removal of the Pearl Harbor Naval Shipyard from the Navy Working Capital Fund on 30 September 1998 (as part of a two year test), with the exception of FY 1998 carryover work and residual NWCF accounting.

This budget is designed to segregate the costs of the continuing and closed yards so as to prevent distortion of the ongoing efforts of the yards remaining open.

The mission cease and operational closure dates for the four closed yards are as follows:

	Mission Cease	Operational Closure
Mare Island	Apr 95	Apr 96
Charleston	Aug 95	Apr 96
Philadelphia	Sep 95	Sep 96
Long Beach	July 96	Sep 97

Only BRAC and residual NWCF costs are reflected in the budget for FY 1997 and out for the closed shipyards.

	(Dollars in Millions)		
Financial Profile:	FY 1997	FY 1998	FY 1999*
Continuing Yards			
Cost of Goods Sold	$2,238.0	$2,060.4	$2,010.2
Operating Results **	377.1	240.8	36.7
Accumulated Operating Results	(104.7)	(4.0)	0.0
Closed Yards	FY 1997	FY 1998	FY 1999*
Cost of Goods Sold	$338.9	$60.7	$9.3
Operating Results **	2.2	0.0	0.0
Accumulated Operating Results	30.9	0.0	0.0
Total Yards			
Financial Profile:	FY 1997	FY 1998	FY 1999*
Cost of Goods Sold	$2,576.9	$2,121.1	$2,019.5
Operating Results **	379.3	240.8	36.7
Accumulated Operating Results	(73.8)	(4.0)	0.0

* excludes Pearl Harbor Naval Shipyard (except residual NWCF workload)

** includes revenue from cash and JLSC surcharges

The changes for the continuing yards in costs of goods sold each year is in line with the changes in workload and also reflects efforts to improve work processes to accomplish planned levels of performance and productivity. Operating results for FY 1997 through FY 1999 includes the application of a cash surcharge on customer work. Total revenue from the cash surcharge is $348.1M in FY 1997 execution, $125.5M in FY 1998, and $32.7M in FY 1999. Operating Results for FY 1997 and FY 1998 includes the application of a Joint Logistics Systems Center (JLSC) surcharge on customer work. Total revenue from the JLSC surcharge is $30.9M in FY 1997 and $45.4M in FY 1998. Payments totaling $6.4M for the International Federation of Professional and Technical Engineers (IFPTE) FLSA Global Memorandum of Understanding is in FY 1997 as a prior year adjustment. Other FY 1997 adjustments are primarily at the closed yards for the close-out of NWCF operations.

The shipyards ended FY 1997 with a positive operating result for the third year in a row. The FY 1997 operating result gain of $379.3M is $1.9M above the President's Budget of $377.4M.

Workload: (Direct Labor Hours)	FY 1997	FY 1998	FY 1999
Total Yards	28,571.2	25,454.2	24,685.4
Continuing Yards	27,237.6	25,454.2	24,685.4
Closed Yards	1,333.6	0.0	0.0

For the continuing yards workload changes are consistent with fleet requirements and also reflect shipyard process improvements. FY 1999 workload is 9.4 percent less than in FY 1997. The budgeted workload includes the results of Quadrennial Defense Review decisions such as the CGN inactivations in FY 1999, but the decrease is primarily due to the removal of Pearl Harbor from the Navy Working Capital Fund (except residual workload).

Performance Indicators

Unit Costs:	FY 1997	FY 1998	FY 1999*
Continuing Yards	$79.67	$81.08	$80.69
Closed Yards	$153.31	na	na
Total Yards	$83.10	$82.47	$81.07

* Excludes Pearl Harbor Naval Shipyard (except residual NWCF workload)

The unit cost represents total costs per direct labor hour incurred by Naval Shipyards in the applicable fiscal year.

Customer Rates:

Rates charged by the three Naval Shipyards operating in the Navy Working Capital Fund in FY 1999 will **decrease** by an overall average of **12.1 percent** from rates charged by these same activities in FY 1998.

Staffing:	FY 1997	FY 1998	FY 1999*
Continuing Yards			
Civilian End Strength	22,038	21,095	19,331
Civilian Work Years (straight time)	22,226	21,105	19,506
Military End Strength	219	213	164
Military Work Years	202	210	163
Closed Yards			
Civilian End Strength	3	0	0
Civilian Work Years (straight time)	830	10	0
Military End Strength	5	0	0
Military Work Years	0	0	0
Total Yards	FY 1997	FY 1998	FY 1999*
Civilian End Strength	22,041	21,095	19,331
Civilian Work Years (straight time)	23,056	21,115	19,506
Military End Strength	224	213	164
Military Work Years	202	210	163

* Excludes Pearl Harbor Naval Shipyard

For the continuing yards civilian end strength and workyear estimates are matched to workload and reflect continued streamlining of shipyard processes and increased productivity along with overall Department of Defense downsizing efforts.

Capital Budget Authority	(Dollars in Millions) FY 1997	FY 1998	FY 1999*
Equipment-Non-ADPE/TELECOM	$29.244	$27.802	$13.086
ADPE/Telecommunications Equip	15.912	6.514	5.430
Software Development	0.000	10.303	19.816
Minor Construction	2.466	2.662	2.024
TOTAL	$47.622	$47.281	$40.356

* Excludes Pearl Harbor Naval Shipyard

The Capital Budget Authority reflects the financing of essential fleet support equipment and other capital improvements critical to sustaining shipyard operations, improving productivity, meeting health, safety and environmental requirements and lowering production costs.

This budget includes $1.0M in FY 1998 and $1.5M in FY 1999 for the Capital Purchases Program (CPP) obligation authority to fund initial efforts toward deployment of the Defense Industrial Financial Management System (DIFMS) at naval shipyards.

The budget also includes $15.4M of FY 1999 Capital Purchases Program (CPP) obligation authority to fund the transfer of the Defense Maintenance Automated Information System from the Joint Logistics System Center (JLSC) to Navy management and funding. The system, which will support OPNAV management of Navy-wide maintenance activities, will be implemented throughout the Navy over the next several years. The DoN has designated Norfolk Naval Shipyard as one of three operating sites prior to deployment at other DoN activities.

The budget includes the Depot Legacy system, which was previously reflected in the JLSC budget. This requirement supports enhancements and mandatory modifications to the standard corporate infrastructure in compliance with JTA/IT21 directions. Funding for this effort is $9.3M in FY 1998 and $2.9M in FY 1999.

Economies and Efficiencies:

This submission includes substantial savings resulting from direct labor efficiencies. Building on the success achieved through project management in recent years, notional mandays for FY 1998 and FY 1999 have been reduced by 2.7% and 2.3% respectively. These efficiencies reflect actual improvements executed in

FY 1997 in the inactivation program as well as submarine Selected Restricted Availabilities.

Continuous efforts are underway to improve and streamline work processes in order to accomplish the planned levels of performance and productivity. This is shown by the continuing shipyards (excluding Pearl Harbor) increasing the direct labor indicator by 2.5 percentage point from FY 1997 to FY 1999 (63.3% to 65.8%). Despite the disruption of continuously declining workload and downsizing, shipyards are focused on improving performance and reducing cost. Advanced Industrial Management (AIM) is a major productivity effort affecting most functional areas of the shipyard. It is an engineering process for industrial operations at naval shipyards and will improve performance by:

- Providing disciplined work planning, estimating and scheduling functions.
- Delivering simplified and complete work documents to the mechanic
- Applying group and zone technology.
- Promoting data management and integration.
- Reshaping and downsizing the organizational structure to take advantage of the improved process.

To achieve these performance improvements, the AIM Program focuses on three major components:

- Process. The process standardizes planning and work procedures and the products produced by these procedures so they can be accessed and reused by all shipyards. The process also allows flexible packaging of work (by zone, trade skill, resource, system, etc.) to promote efficient resource management.

- Organization. The shipyard organizational and management structure has been changed to reflect the project orientation of the improved process.

- Information Technology. New automated tools are developed to support the portions of the process that cannot be satisfied with existing systems. All automated systems (new and old) are integrated to provide a single point of entry for each user, a common man-machine interface, and standard software that can be easily maintained.

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
SHIPYARD / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	2,529.3	2,132.4	1,972.1
Surcharges	380.3	171.0	32.7
Depreciation excluding Major Constructio	46.7	58.4	51.4
Other Income			
Total Income	2,956.2	2,361.9	2,056.2
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	14.2	14.5	11.6
Civilian Personnel	1,347.4	1,303.9	1,198.3
Travel and Transportation of Personnel	62.4	41.5	32.7
Material & Supplies (Internal Operations	208.4	235.2	241.2
Equipment	10.7	22.3	19.2
Other Purchases from NWCF	31.4	40.9	33.1
Transportation of Things	3.7	5.6	4.2
Depreciation - Capital	46.7	58.4	51.4
Printing and Reproduction	3.4	3.6	2.7
Advisory and Assistance Services	.2	.7	.7
Rent, Communication & Utilities	70.5	62.5	49.3
Other Purchased Sevices	575.4	309.9	357.0
Total Expenses	2,374.4	2,099.2	2,001.2
Work in Process Adjustment	219.3	22.3	18.8
Comp Work for Activity Reten Adjustment	-16.7	-.5	-.5
Cost of Goods Sold	2,576.9	2,121.1	2,019.5
Operating Result	379.3	240.8	36.7
Less Surcharges	-380.3	-171.0	-32.7
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	-2.4	.0	.0
Net Operating Result	-3.4	69.8	4.0
Other Changes Affecting AOR	-9.6	.0	.0
Accumulated Operating Result	-73.8	-4.0	.0

Exhibit Fund-14

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
SHIPYARD / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	2,485.9	2,379.4	1,890.8
a. Orders from DoD Components	2,345.1	2,286.7	1,816.2
Department of the Navy	2,160.8	2,231.6	1,797.6
O & M, Navy	1,882.0	1,933.4	1,520.5
O & M, Marine Corps	1.0	.7	.4
O & M, Navy Reserve	6.7	4.4	3.6
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	.0	.0	.0
Weapons Procurement, Navy	1.9	.2	.2
Ammunition Procurement, Navy/MC	.0	.0	.0
Shipbuilding & Conversion, Navy	12.7	19.1	8.8
Other Procurement, Navy	169.7	176.1	177.9
Procurement, Marine Corps	.0	.0	.0
Family Housing, Navy/MC	9.8	12.2	11.2
Research, Dev., Test, & Eval., Navy	63.1	64.7	64.0
Military Construction, Navy	6.9	7.3	3.6
Other Navy Appropriations	7.0	13.6	7.4
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	.1	.1	.0
Army Operation & Maintenence	.1	.1	.0
Army Res, Dev, Test, Eval	.0	.0	.0
Army Procurement	.0	.0	.0
Army Other	.0	.0	.0
Department of the Air Force	.2	.2	.2
Air Force Operation & Maintenence	.2	.2	.2
Air Force Res, Dev, Test, Eval	.0	.0	.0
Air Force Procurement	.0	.0	.0
Air Force Other	.0	.0	.0
DOD Appropriation Accounts	183.9	54.9	18.4
Base Closure & Realignment	171.7	35.8	5.8
Operation & Maintence Accounts	4.3	14.8	7.2
Res, Dev, Test & Eval Accounts	2.0	1.1	1.0
Procurement Accounts	5.2	2.5	3.7
DOD Other	.7	.6	.7
b. Orders from NWCF Business Area	129.3	83.5	66.3
c. Total DoD	2,474.4	2,370.3	1,882.5
d. Other Orders	11.5	9.1	8.4
Other Federal Agencies	1.2	1.5	1.3
Foreign Military Sales	3.1	1.2	1.1
Non Federal Agencies	7.2	6.4	5.9

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
SHIPYARD / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	1,265.1	794.9	812.3
3. Total Gross Orders	3,751.1	3,174.2	2,703.2
4. Funded Carry-Over **	794.9	812.3	647.0
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	2,956.2	2,361.9	2,056.2

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

FY 1999 President's Budget Estimates
DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
DEPOT MAINTENANCE - NAVAL SHIPYARDS

SUMMARY OF CHANGES IN OPERATIONS
FUND 2

	EXPENSE
1. FY97 ACTUALS	**$2,374,367**
2. FY98 PRESIDENT'S BUDGET	**$2,048,312**
3. PRODUCTIVITY INITIATIVES	($29,820)
a. Savings from CPP	$0
b. Management Efficiencies	($29,820)
1. Labor	($27,625)
2. Non-labor	($2,195)
4. Workload Changes	$45,484
a. Direct Workyears	$33,474
b. Direct Non-labor	$6,106
c. Overhead Workyears	$5,904
5. OTHER CHANGES	$35,221
a. Change in Separation Costs	($1,709)
b. Depreciation	($3,898)
c. Cost Offset from Loss of Scrap Sales	$11,199
d. FECA	($255)
e. Change in Avg. Salary	$13,390
f. Residual Impact from closed Yards	$4,422
g. Other Overhead	$12,072
6. FY 98 CURRENT ESTIMATE	$2,099,197

FY 1999 President's Budget Estimates
DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
DEPOT MAINTENANCE - NAVAL SHIPYARDS

SUMMARY OF CHANGES IN OPERATIONS
FUND 2

	EXPENSE
6. FY 98 CURRENT ESTIMATE	**$2,099,197**
7. Pricing Adjustments	$39,766
a. Pay Raise	$35,848
1. FY98 Pay Raise	$24,100
2. Annualization	$11,748
b. Stock Fund Fuel	($137)
c. Stock Fund Non-fuel	($3,149)
d. Industrial Fund Purchases	($804)
e. General Inflation	$7,538
f. Military pay raise	$470
g. Other	$0
8. PRODUCTIVITY SAVINGS	($18,428)
a. Savings from CPP	($2,100)
b. Management Efficiencies	($16,328)
1. Labor	($16,328)
9. Workload Changes (excluding Pearl Harbor)	$136,375
a. Direct Workyears	$72,771
b. Direct Non-labor	$50,576
c. Overhead Workyears	$13,028
10. Other Changes	($255,724)
a. Change in Separation Costs	($3,706)
b. Facility Maintenance (MRP)	$11,241
c. Depreciation	$3,780
d. FECA	($869)
e. Residual Impact from Closed Yards	($26,020)
f. Pearl Harbor Transfer to Mission Funding	($224,643)
g. Other Overhead	($15,507)
11. FY99 CURRENT ESTIMATE	**$2,001,186**

DEFENSE BUSINESS OPERATIONS FUND
COMPONENT/BUSINESS AREA: NAVAL SHIPYARDS
(Dollars in Millions)

MATERIAL INVENTORY DATA

	Total	Mobilization	----Peacetime---- Operating	Other
FY 1997				
Material Inventory Begin FY 1997	157,320		157,320	
Purchases				
A. Purchases to Support Customer Orders (+)	240,520		240,520	
B. Purchase of long lead items in advance of customer orders (+)				
C. Other Purchases (list) (+)				
D. Total Purchases	240,520		240,520	
Material Inventory Adjustments				
A. Material Used in Maintenance (billed to customer orders) (-)	259,696		259,696	
B. Disposals, theft, losses due to damages (-)				
C. Other reductions (list) (-)				
D. Total Inventory adjustments	259,696		259,696	
Material Inventory End FY 1997	**138,144**		**138,144**	
FY 1998				
Material Inventory Begin FY 1998	138,144		138,144	
Purchases				
A. Purchases to Support Customer Orders (+)	196,146		196,146	
B. Purchase of long lead items in advance of customer orders (+)				
C. Other Purchases (list) (+)				
D. Total Purchases	196,146		196,146	
Material Inventory Adjustments				
A. Material Used in Maintenance (billed to customer orders) (-)	231,154		231,154	
B. Disposals, theft, losses due to damages (-)				
C. Other reductions (list) (-)				
D. Total Inventory adjustments	231,154		231,154	
Material Inventory End FY 1998	**103,136**		**103,136**	
FY 1999				
Material Inventory Begin FY 1999	103,136		103,136	
Purchases				
A. Purchases to Support Customer Orders (+)	227,659		227,659	
B. Purchase of long lead items in advance of customer orders (+)				
C. Other Purchases (list) (+)				
D. Total Purchases	227,659		227,659	
Material Inventory Adjustments				
A. Material Used in Maintenance (billed to customer orders) (-)	228,739		228,739	
B. Disposals, theft, losses due to damages (-)				
C. Other reductions (list) (-)				
D. Total Inventory adjustments	228,739		228,739	
Material Inventory End FY 1999	**102,056**		**102,056**	

Navy Working Capital Fund Capital Investment Summary
Business Area: DON/Depot Maintenance
Component: NAVAL SHIPYARDS
FY 1999 AMENDED BUDGET ESTIMATES
January 1998
($ in Millions)

Line Num	Description	FY 1997		FY 1998		FY 1999		FY 2000	
		Qty	Total Cost	Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
	Non ADP								
1	PORTAL CRANE, 60T (Replacement)	1	6.870						
2	NFPC, REBUILD PROP PROFILER (SU-10) (Productivity)					1	3.300		
3	REBUILD FLOOR TYPE HORIZ. BORING MILL (Productivity)	1	3.000						
4	1250 TON FORGING PRESS w/DIE ROTATOR (Replacement)					1	2.524		
5	135 LONG TON PORTAL CRANE (Replacement)	1	.047			1	2.303		
6	18 TON MOBILE CRANES, ROUGH TERRAIN (Replacement)			6	1.800				
7	100 TON BRIDGE CRANE FOR BLDG 171 (Replacement)	1	1.760						
8	2000 TON PRESS BRAKE (Replacement)			1	.040	1	1.500		
9	RELOCATE 60 TON PORTAL CRANE (Replacement)	1	1.500						
10	BLAST BOOTH FOR BLDG. 285 (Environmental)	2	1.500						
11	50 TON BRIDGE CRANE FOR BLDG 369 (Replacement)	1	1.351						

Exhibit 9A

Navy Working Capital Fund Capital Investment Summary
Business Area: DON/Depot Maintenance
Component: NAVAL SHIPYARDS
FY 1999 AMENDED BUDGET ESTIMATES
January 1998
($ in Millions)

Line Num	Description	FY 1997		FY 1998		FY 1999		FY 2000	
		Qty	Total Cost	Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
12	60 TON BRIDGE CRANE FOR BLDG 129 (New Mission)	1	1.200						
13	M-130 ENCLOSURE PUMPDOWN SYSTEM (Replacement)			2	1.032				
14	CRANE, MOBILE, 150 TON LATTICE BOOM (Replacement)	1	.050	1	.970				
15	40 TON MOBILE TRUCK CRANES (Replacement)			2	1.000				
16	TRUCK, STRADDLE CARRY, WIDE (Replacement)	1	.300	2	.600				
17	CRANE, 50 TON MOBILE HYDRAULIC (Replacement)	2	.900						
18	MANLIFT, 90 FOOT (Replacement)	4	.010	8	.880				
19	EQUIP. DESIGN & ENGIN. FOR FY 2000 (Replacement)					1	.852		
20	RELOCATE SHAFT LATHE FM PHILA NSY (Replacement)	1	.800						
21	CRANE, LOCOMOTIVE (Replacement)	1	.800						
22	BRIDGE CRANE - BLDG 215 (Replacement)	1	.070	1	.727				
23	800 TON PRESS BRAKE (Replacement)	1	.030	1	.750				
24	PLASMA CUTTING / PUNCHING MACHINE (Replacement)	1	.035	1	.700				

Navy Working Capital Fund Capital Investment Summary
Business Area: DON/Depot Maintenance
Component: NAVAL SHIPYARDS
FY 1999 AMENDED BUDGET ESTIMATES
January 1998
($ in Millions)

Line Num	Description	FY 1997		FY 1998		FY 1999		FY 2000	
		Qty	Total Cost	Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
25	CNC PUNCH / PLASMA FABRICATING CEN. (Replacement)			1	.705				
26	RETROFIT HORIZ. BORING MILL (Replacement)	1	.680						
27	VERTICAL RECIPROCATING CONVEYOR #2 (Productivity)	1	.180	1	.480				
28	TRUCK, STRADDLE-CARRY, NARROW (Replacement)			2	.020	2	.640		
29	WEIDEMANN PUNCH PRESS (Replacement)	1	.650						
30	CONVERSION OF BLAST BOOTH #2 (Productivity)					1	.648		
31	CRUISER CRANE, 65 TON (Replacement)					1	.600		
32	TRUCK, PRIME MOVER, SELF-LOADING (Replacement)	2	.010	3	.439	1	.150		
33	CRANE, BRIDGE, 50 TON, OVERHAUL, B92 (Replacement)	1	.075	1	.499				
34	FIRE TRUCK, LADDER (Replacement)	1	.008	1	.562				
35	NFPC, PITCHOMETER (Productivity)			1	.565				
36	EMERGENCY RADIO COMM. SYSTEM (New Mission)	1	.540						
37	CNC BEAM PROFILER (Productivity)	1	.045	1	.478				
38	Miscellaneous (Non ADP < $500K)		6.833		15.555		.569		

Exhibit 9A

Navy Working Capital Fund Capital Investment Summary
Business Area: DON/Depot Maintenance
Component: NAVAL SHIPYARDS
FY 1999 AMENDED BUDGET ESTIMATES
January 1998
($ in Millions)

Line Num	Description	FY 1997		FY 1998		FY 1999		FY 2000	
		Qty	Total Cost	Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
	Non ADP Total:		**29.244**		**27.802**		**13.086**		
	ADP								
39	DEPOT MAINTENANCE STANDARD SYS. (Hardware)	1	12.622						
40	REPLACE BANYAN VINES (Hardware)			1	6.500	1	4.875		
41	AIM SYSTEM (Hardware)	1	3.000						
42	MIZ 30 TUBE INSPECTION EQUIPMENT (Hardware)			3	.014	3	.555		
43	Miscellaneous (ADP < $500K)		.290						
	ADP Total:		**15.912**		**6.514**		**5.430**		
	Software								
44	DEFENSE MAINTENANCE STANDARD SYSTEM					1	15.400		
45	DEPOT LEGACY SYSTEMS			1	9.300	1	2.900		
46	DEPOT MAINTENANCE ACCOUNTING SYSTEM - NIFMS			1	.983	1	1.506		
47	Miscellaneous (Software < $500K)				.020		.010		
	Software Total:				**10.303**		**19.816**		

Exhibit 9A

Navy Working Capital Fund Capital Investment Summary
Business Area: DON/Depot Maintenance
Component: NAVAL SHIPYARDS
FY 1999 AMENDED BUDGET ESTIMATES
January 1998
($ in Millions)

Line Num	Description	FY 1997		FY 1998		FY 1999		FY 2000	
		Qty	Total Cost	Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
	Minor Construction								
48	MOVE IRR TO INDOOR LOCATION			1	.060	1	.475		
49	Miscellaneous (Minor Construction < $500K)		2.466		2.602		1.549		
	Minor Construction Total:		**2.466**		**2.662**		**2.024**		
	Grand Total:		**47.622**		**47.281**		**40.356**		

Exhibit 9A

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)							A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES					
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 2/NFPC, REBUILD PROP PROFILER (SU-10) (Productivity)				D. Site Identification NNSY Norfolk, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP							1	3300	3300			

Narrative Justification:

Description

Complete mechanical and electrical overhaul of a five axis CNC propeller profiler. Work to include new drives, new CNC control and major mechanical overhaul.

Justification

Current profiler is nearly twenty years old, is mechanically worn, and has obsolete controls and drives. The above lead to constant breakdowns, increased set-up time and increased post machining work. The overhaul of this machine will save $600,000 per year and pay for itself in five years.

Impact

If this profiler is not overhauled in the immediate future NFPC will not be able to keep it running. The drives and control for this machine are no longer supported by the original manufacturers (drive manufacturer no longer in business)> Parts are no longer available and NFPC's supply of spare parts is dangerously low. If this machine goes down naval propeller schedules will suffer.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)							A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES					
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 4/1250 TON FORGING PRESS w/DIE ROTATOR (Replacement)				D. Site Identification NNSY Norfolk, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP							1	2524	2524			

Narrative Justification:

Description

1250 Ton forging press with die rotator on the moving platen and a sliding bolster on the bottom platen.

Justification

The equipment replaces a 2000 ton press and a 300 Ton press. Work has been regularly turned down due to the 2000 Ton press outages and the 300 Ton press has insufficient capacity for current shop workloads. The new equipment has the capacity to perform 95% of forging work required by navy ships and provides the only remaining east coast capacity of this size. This equipment is necessary for the forging shop to perform one of its primary missions and the capacity of the naval shipyards to perform work required by naval vessels in house. With extensive outages on the 2000 Ton press and the closure of Charleston NSY and the Philadelphia NSY the navy has lost heavy forging capacity on the east coast. The other commercial shipyards on the east coast have limited or no forging capacity. The cost of this press is $2,523,036 with estimated annual savings of $169,046.

Impact

The press is necessary for the modernization of the forge shop to accomplish its mission. The mission can be accomplished with extreme difficulty through the use of "job shop" forge shops and alternate means. Two factories require the purchase of forges at the present time: the availability nation wide of contractor Job shop" forge work centers is diminishing and the navy yard heavy forging trained workers are retiring. Lack of the large press precludes training of new heavy forgers. The press will reduce safety hazards in the shop. The ability of Norfolk NSY to meet schedules will be immediately improved.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)							A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES					
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 5/135 LONG TON PORTAL CRANE (Replacement)				D. Site Identification NNSY Norfolk, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	1	0	47				1	0	2303			

Narrative Justification:

Description

The purpose of this project is to replace a 50 ton portal crane (USN 181-101991) with a new 135 long ton portal crane. The crane will be configured to accommodate shipyard workload demands. This project requests preliminary design funding in FY 97 in the amount of $47K with additional design funding in the amount of $2.303 million in FY 99. Procurement of the crane is planned in the FY 2000 budget at a cost of $14.65 million. Total cost for this replacement project is $17 million dollars.

Justification

The existing 50 ton portal crane is 29 years beyond its useful service life. Built in 1943, it has extensive structural fatigue, poor reliability, and is in poor mechanical condition. The crane's obsolete design characteristics (low and squatty) restricts its use to 50% of the required work area. It's present condition does not economically justify overhaul to meet mandated safety standards, nor remedy the problems of inadequate lift and reach capacity.

The Navy's advanced ship design and repair technology mandates lifting of loads beyond the shipyard's current portal crane capacity of 60 tons. The 135 long ton portal crane will provide heavy lift capability, thus eliminating expensive alternative lifting methods such as: dual crane lifts and/or jack and roll methods. Alternative lifting methods add unnecessary risk to personnel and property. Procurement of a 135 long ton portal crane will result in an annual savings of $823K per year with a payback period of 10.66 years over a rated useful service life of 25 years.

Impact

Failure to fund this project will result in Norfolk Naval Shipyard not being able to provide cost effective portable heavy lift service in excess of 60 tons. Existing crane conditions will force the shipyard to continue using expensive alternatives at unnecessary risk to personnel and property. Since the existing crane cannot be placed in useful service, NNSY will have a crane inventory shortage in the area supported by the 50 ton cranes. The shipyard will not realize a savings of $823K per year.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC
(Dollars in Thousands)

A. Budget Submission
FY 1999 AMENDED BUDGET ESTIMATES

B. Component/Business Area/Date
DON/DEPOT MAINT/NSY/JAN 98

C. Line# and Description
6/18 TON MOBILE CRANES, ROUGH TERRAIN (Replacement)

D. Site Identification
NNSY Norfolk, VA

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP				6	300	1800						

Narrative Justification:

Description

This project will replace six hydraulically operated diesel powered rough terrain mobile cranes. The six new 18 ton capacity cranes will incorporate modern safety improvements (e.g. fail-safe hoist systems, load indicators, mfr. certification for personnel lifts, increased stability design/load chart safety margins) and satisfy OSHE requirements for long-shoring work, all of which is currently not accomplished with existing cranes in place.

Justification

Six new cranes required to replace six aging cranes (shipyard core capital assets). Existing cranes are fully depreciated and will have exceeded their service life by 3 yrs in project execution year. The existing cranes are imposing repair costs increasing at a rate over 25%, requiring replacement of overhaul level high dollar parts. Poor condition of existing cranes cause numerous unscheduled crane down-times (approaching 300% of normal operating downtime), resulting in production job stoppages and added crane maintenance, which impose substantial added costs to the Navy.

Impact

Accomplish Mission with Difficulty: These cranes are lifted onto ships to provide service on the flight and hangar decks of Aircraft and Helicopter Carriers, supporting ship upgrades, system installations and rip-outs, in cramped areas spaces and through access cuts in ships' hulls. Off-yard work is increasing. Increasing unscheduled crane downtimes trend toward less reliability, adversely impacting the Shipyard's mission with delays and costs.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)	A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES

B. Component/Business Area/Date	C. Line# and Description	D. Site Identification
DON/DEPOT MAINT/NSY/JAN 98	7/100 TON BRIDGE CRANE FOR BLDG 171 (Replacement)	NNSY Norfolk, VA

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	1	1760	1760									

Narrative Justification:

Description

The new crane will be an overhead electric traveling bridge, fully equipped with a 100 ton main and a 50 ton auxiliary, DC powered, cab operated. It will have a span of 75' 4" with a maximum hook height of 67' 7".

Justification

The existing bridge crane (USN 117420) is over 60 years old and has been down rated from 150 tons to 65 tons due to deterioration and electrical equipment failure. Refurbishment of the crane's structure and retrofit of new electrical system is impractical at the 65 ton capacity. The crane is not capable of lifting propellers to accomplish fitting to shafts without the aid of a mobile crane. It is also incapable of lifting the shaft lathe head stock for maintenance. The frequent unscheduled outages experienced due to equipment failures has resulted in numerous work stoppages and missed scheduled dates on availabilities.

Impact

Without the new bridge crane, Norfolk Naval Shipyard will not be able to perform the shaft work noted above. There are no alternatives to making the required lifts at Norfolk Naval Shipyards. This work, which is classified as mission essential work would have to be redirected elsewhere. Failure to procure a 100 ton bridge crane would prevent Norfolk from meeting NAVSEA mandated requirements for shaft work on aircraft carriers, 688 class and Seawolf class submarines.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)							A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES					
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 8/2000 TON PRESS BRAKE (Replacement)				D. Site Identification PSNSY Bremerton, WA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP				1	0	40	1	1500	1500			

Narrative Justification:

Description

This project will provide a replacement for a worn out 55 year old press brake, for which repair parts are no longer available. Replacement of this press is considered a mandatory requirement to restore/maintain a basic core capability.

Justification

The existing press brake was manufactured in 1943, and has an 1,800 ton capacity. When operational, it is used on a three shift basis for forming structural shapes from large/heavy aluminum and steel plate. Due to its age and advanced state of wear, serious breakdowns have become more frequent. Repair parts are extremely scarce, and in most cases require special manufacture in-house, which results in protracted outages. The reduced reliability and extended downtimes jeopardize, and often actually delay, production schedules. In many cases there is no approved alternate method for fabrication of the structural component. Alternate methods which are approved are labor intensive, almost to the point of being impractical, and drive costs over budget allowance. It is conservatively estimated that the unscheduled press brake outages cost the Shipyard 6,000 man-hours per year in production delays and work-arounds. Procurement of the new 2000 ton press brake will restore full reliability of a core capability, and provide an additional 200 tons of capacity needed to facilitate forming the high strength steel used in the repair and modification of modern naval vessels. Replacement of the press brake will result in an annual savings estimated at $264K. The payback period will be 7.45 years.

Impact

Delay of this project will result in the Shipyard's loss of a vital core capability in the event that the existing press brake suffers catastrophic breakdown and cannot be restored to service. This would result in serious adverse impact on the Shipyard's ability to accomplish its mission.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)						A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES						
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 13/M-130 ENCLOSURE PUMPDOWN SYSTEM (Replacement)			D. Site Identification NNSY Norfolk, VA					
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP				2	500	1032						

Narrative Justification:

Description

This project will remove two highly radioactive contaminated M-130/M-140 Container Pumpdown Systems and replace them with simplified systems and provide an enclosed operating space for these systems which will improve M-130/M-140 railcar movements.

Justification

Highly radioactive contaminated systems are difficult to maintain and operate. The levels of contamination are approaching levels where maintenance/operation of these systems will become extremely difficult and costly and will expose personnel to high radiation levels. The replacement system will be a simpler design which would minimize the amount of piping, hoses and components that can become contaminated. This project will also provide an enclosed operating area which will provide operators a room to confine high radiation levels. The enclosed operating area will replace a portable enclosure required to be moved every time a M-130/M-140 container railcar or heavily shielded demineralizers are installed in the Refueling/Defueling Facility. This will prevent the need to perform time consuming and difficult weight handling operations.

Impact

The mission can be accomplished but not without difficulty. This project will provide the ability and improve the efficiency of performing refueling/defueling pumpdown operations as well as eliminate difficulties involved with movements of railcars or other items into the enclosure. Annual savings resulting from the implementation of this project are $247,185 with an expected payback period of 5.49 years and an IRR of 20%. The schedule improvement is expected to be within the first year of operation.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)							A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES					
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 14/CRANE, MOBILE, 150 TON LATTICE BOOM (Replacement)				D. Site Identification PSNSY Bremerton, WA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	1	0	50	1	970	970						

Narrative Justification:

Description

This project provides a permanent replacement for a mobile crane which was surveyed as beyond repair. Currently the workload is being supported by long term rental of a mobile crane at excessive costs.

Justification

The current workload mix in the shipyard requires full time use of a high capacity mobile crane for handling of heavy hull sections and machinery at remote demil/cut-up sites, as well as general waterfront support. The Shipyard is currently renting a 150 ton crane at a cost of $219K per year, as a temporary replacement for the crane which was surveyed as beyond repair due to major structural and mechanical deficiencies. This crane, although in typical condition for rental cranes of this size, had a 38% down time (92 work days) for maintenance and repair in 1996, at a cost of $36,518. This excessive down time results in work delays, at a cost which is conservatively estimated at $1,000 to $2,000 per day. (For the purpose of economic analysis, $1,000/day is used.) Typically, a new crane of this type and size would have 12-15% down time for maintenance).

Procurement of the new crane will result in an annual savings of $350K, through elimination of rental costs, reducing downtime to scheduled maintenance, and eliminating lost production due to unscheduled crane outages. The payback period will be 4.2 years. In addition, crane familiarization based upon training and operating experience is a key element in preventing accidents. The potential for accidents is reduced by lowering the Shipyard's dependence on a changing inventory of rental cranes.

Impact

Delay in funding this project will necessitate continued rental of a crane at an annual cost of $219K. Lease cost will match replacement cost in 4.8 years, as opposed to a 10 year life cycle of a procured crane. The existing rental crane will have a continual high downtime trend exceeding 38% and resulting costly repairs and work delays.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)		A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 15/40 TON MOBILE TRUCK CRANES (Replacement)	D. Site Identification NNSY Norfolk, VA

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP				2	500	1000						

Narrative Justification:

Description

Two hydraulically operated, diesel powered truck cranes. 40 Ton capacity. New cranes will provide safety features of existing cranes (e.g. inability for uncontrolled lowering, slow speed movement capability, etc.), and will incorporate modern safety improvements (e.g. fail-safe hoist systems, load indicators, mfr. certification for personnel lifts, increased stability design/load chart safety margins) and satisfy OSHE requirements for long-shoring work, which the existing cranes do not.

Justification

Two new cranes required to replace 1 unserviceable and 2 aging cranes (shipyard core capital assets). Existing cranes are fully depreciated and will have exceeded their service life by 3 yrs. in project execution year. The existing cranes are imposing material repair costs increasing at a rate of 67% ('94-95), requiring replacement of overhaul level expensive parts. Existing conditions manifest as unscheduled crane down-times, resulting in production job stoppages, and added crane maintenance, which impose substantial added costs to the Navy.

Impact

Accomplish Mission with difficulty. Cranes provide multiple site heavy-lift service beyond the reach of shipyard dock cranes, at satellite activities, emergency response, Navy Base, and for the support of the local stationing of a squadron of Destroyers. Off yard work is increasing. The increase of unscheduled crane downtime trends toward less reliability, adversely impacting the Shipyard's mission with delays and costs.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)						A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES						
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 16/TRUCK, STRADDLE CARRY, WIDE (Replacement)			D. Site Identification PSNSY Bremerton, WA					
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	1	275	300	2	300	600						

Narrative Justification:

Description

This project will provide the Shipyard with a wide straddle-carry truck which will be dedicated tc the support of the ship IRR program (Inactivation, Reactor Compartment Disposal, Recycling).

Justification

The Shipyard currently has 2 wide straddle-carry trucks in inventory. Both are certified for special purpose service (SPS) or nuclear work, which restricts their allowable load to 80% of the manufacturer's rated capacity. The ship IRR program utilizes the straddle trucks to move containers of scrap metal, and sometimes the weight restrictions are unintentionally exceeded. The unit must then be taken out of service and tested to recertify it for nuclear work. In addition to being costly in terms of labor to test and recertify, waterfront work is delayed. The requested straddle truck would be reserved for non-nuclear work and would have full rated capacity of 62,500 pounds, vice the nuclear rating of 50,000 pounds. This will decrease the number of trips required and eliminate the requirement to take the unit out of service for nuclear recertification in the event the rated load is exceeded. Procurement of the new straddle-carry truck will result in an annual savings estimated at $75K. The payback period will be 5.24 years.

Impact

Delay in the funding of this project will result in the continued use of SPS straddle trucks, with their associated costs and work delays.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)							A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES					
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 18/MANLIFT, 90 FOOT (Replacement)				D. Site Identification PSNSY Bremerton, WA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	4	0	10	8	110	880						

Narrative Justification:

Description

This project provides replacement for 4 manlifts (USN 01-06323, 01-06327, 01-06328 & 01-06330). These units are past their service life per NAVFAC Instruction, P-300 dated September 1992, and are worn beyond economical repair.

Justification

The shipyard is using 48 manlifts to support production work (13 shipyard owned, 35 leased). Manlifts are used in lieu of staging which is costly to procure, maintain, erect, and dismantle. The manlifts to be replaced by this project have excessive down time and maintenance costs ($70,525 in the last 2 years). These failure usually occur during production operations, halting work (welding, blasting, painting, etc.) while the manlift is removed, a replacement bought to the site, and lowered into the drydock. Each breakdown results a minimum of 4 hours delay for the manlift operator and the worker performing the operation (plus several others if a complex evolution such as final cutting and removal of a hull section is in progress). The cost of diverting crane and rigger services from other production work is also significant. One manlift was surveyed in 1996 as beyond economical repair and replaced by a rental unit (at $5,353/month), and the remaining 3 will have to be removed from service within 2-3 years. The purchase of 4 replacement manlifts will result in an annual cost avoidance of $256,944 (rental). The payback period will be 2.82 years.

Impact

Delay in the procurment of permannet replacement manlifts will necessitate long term rental at an annual cost of $256,944. Over the 10 year service life for a new unit this equates to a net loss of $1.8M.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)							A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES					
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 19/EQUIP. DESIGN & ENGIN. FOR FY 2000 (Replacement)			D. Site Identification NSY Arlington, VA (all sites)					
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP							1	0	852			

Narrative Justification:

Description

Due to the constraint of this exhibit, it is not possible to budget engineering and design costs as part of projected FY-2000 Non-ADPE projects.

Justification

The foundation for displaying the equipment design cost as a separate item is twofold. First, it has been our experience that we must design the prior year of execution in order to insure program execution. In some cases where there is long lead time for design, design must be executed well in advance of the actual acquisition. Design and execution of a specific project in the same year lends itself to low execution throughout the year. The purpose of funding of engineering costs prior to project execution is to improve shipyard program execution performance. Second, prior year funding for engineering and design promotes better business planning, acquisition planning, and site engineering that would take into consideration all project contingencies and minimize project cost overruns. By funding engineering costs as part of the capital asset project in the same year as project execution, shipyards are forced to plan and execute within the time constraints of the fiscal year often resulting in a lack of project execution and/or excessive cost overruns that cause failure.

Impact

Prudent program management dictates that we should design one year and execute the next year. In intent of the display is to reflect this change in management philosophy.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)							A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES					
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 22/BRIDGE CRANE - BLDG 215 (Replacement)				D. Site Identification PHNSY Pearl Harbor, HI				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	1	0	70	1	727	727						

Narrative Justification:

Description

This project will rebuild existing bridge crane 215-131 (NID 00311-005184) in Bldg 215 (Shop 38), which is more than 55 years old. The rebuilt crane will be of similar capacity , operate on the existing rail system, use the existing power source, and be equipped with features to satisfy the nuclear material storage area established. Strategies and procedures used successfully by Puget Sound Naval Shipyard will be used to rebuild this crane.

Justification

The rebuilt crane will meet Special Purpose Service (SPS) requirements to support building 215's use as a reactor servicing equipment storage facility. Alternate lifting service, such as truck crane service, is not feasible for certain nuclear lifting operations due to building accessibility and floor space constraints. The existing crane is aged, unreliable, and prone to frequent breakdowns. Repair parts are not commercially available and must either be custom made or manufactured in-house on a trial and error basis, adding to the cost and downtime. Maintenance of this crane requires safety controls for workers because of exposed electrical conductors, asbestos and lead painted parts, and grease/oil leaks. The existing crane has been operational less than 2 months per year, which requires more than 3,800 hours of additional labor to handle equipment lifts that average 450 per year. When the crane is down, forklifts, A-frames, and jury-rigged rope arrangements are used to store and move nuclear support equipment to specified areas. Workload for this operation is anticipated to increase up to 500 lifts per year and more as more defuelings are completed in the next 10 years. The rebuilt crane will also provide General Purpose lifting services for the Production Resources Training Office (PRTO) which will be located in the front of Bldg 215.

Impact

If the existing crane is not replaced/rebuilt, the shipyard and it's customers will not be able to achieve full SSN 688 class reactor servicing capability and realize cost avoidance savings of more than $141,000 in maintenance and operational costs.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)		A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 23/800 TON PRESS BRAKE (Replacement)	D. Site Identification PSNSY Bremerton, WA

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	1	0	30	1	750	750						

Narrative Justification:

Description

This project replaces two severely worn press brakes, One 650 ton unit (NID 00251-000879) built in 1944 and the other is a 350 ton brake (NID 00251-031027) built in 1967. Both will be replaced by one modern hydro-mechanical 800 ton press brake which meets current safety standards.

Justification

Press breaks are essential for forming metal plate into the structural shapes. In some cases, there is no practical or acceptable alternate method of achieving the required shapes without changing the design of the component. Both press breaks to be replaced are severely worn, resulting in excessive down time and repair costs. (The 650 ton press was down for 1 year awaiting delivery of a pitman arm which cost $24K.) The frequent breakdowns necessitates that the work be delayed, or done on a larger (1800 ton) press brake where tooling is not well suited for the work. Additionally, the operation is cumbersome, requiring extra care/time to produce an acceptable product.

Rebuild of the existing press brakes is not a cost effective alternative, due to their obsolete and mechanical design. The required safety features provided by current designs cannot be retrofit to older equipment designs replacement of almost every major component, essentially resulting in a completely new machine. The end product would be press brakes which would not provide the additional tonnage for the larger sizes plates and high strength alloys.

Based on the current and projected work load, procurement of the new press brake will result in an annual savings of $140K. The payback period will be 7.17 years.

Impact

This project is required to restore/maintain a vital core capability. Delay of funding beyond the requested year will jeopardize the Shipyard's ability to accomplish its mission.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)		A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 24/PLASMA CUTTING / PUNCHING MACHINE (Replacement)	D. Site Identification PSNSY Bremerton, WA

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	1	0	35	1	700	700						

Narrative Justification:

Description

This project provides a replacement for a plasma cutting/punching machine (NID #105233) which is past its normal service life and is severely worn.

Justification

The existing machine is considered a core capability for accomplishment of the Structural Shop workload. It has been used on a 3 shifts per day basis since its installation in 1986 and, due to a change in workload mix since that time, is being worked near the upper range of its capacity. Breakdowns due to component wear and fatigue are frequent, resulting in work delays and increased labor costs. During the last 3 years the machine has been down for repair 168 days (4,000 hrs.). During these outages plate is laid out and marked by hand, then cut and drilled by alternate, more costly methods where quality and speed are deminished and labor (especially hand finishing) is intensive.

1

Impact

Delay in funding this project will require continued use of the worn out machine until it fails and cannot be returned to service. The entire workload will then have to be accomplished using alternate methods. This will increase production costs by a minimum of $250K per year, and jeopardize schedules.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)	A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES

B. Component/Business Area/Date	C. Line# and Description	D. Site Identification
DON/DEPOT MAINT/NSY/JAN 98	25/CNC PUNCH / PLASMA FABRICATING CEN. (Replacement)	NNSY Norfolk, VA

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP				1	705	705						

Narrative Justification:

Description

CNC Turret Punch/Plasma Metal Plate Fabricating Center consisting of Whitney punch, Tooling & Programming, Powered slug conveyor, ball transfer tables and rotary ram.

Justification

The present equipment takes ferrous and non ferrous plate and automatically cuts and punches it producing finished piece parts. Current machine annual down time averages six weeks and machine capacity is limited to 3/8" metal thickness, 3/8" hole size punching. The proposed project replaces this equipment with a machine capable of cutting and punching 3/4" thick material. To meet ship's schedules, alternate methods require three to ten highly skilled mechanics using manual machines vs. one operator required by this project. Alternate methods increase the fabricated part costs by a minimum of 300% and require the use of overtime. Annual cost of $30,000 are incurred by the present machine due to hand work and compresses gas usage. The ability to work 3/4" materials will decrease individual job cost by approximately 20% and enhance the Navy's ability to meet production schedules. The cost of new equipment is $704,800 with annual savings of $199,256 and a payback of 3.77 yrs.

Impact

This equipment integrates the Intergraph CAD/CAM computer control into shop manufacturing processes. The proposed equipment uses nesting techniques eliminating significant material wastage. The proposed equipment reduces the quantity of compressed gases by 20%. Delay on this project will significantly cause the following effects; 30% increase in downtime; 15% increase in cost to the ship; 30% maintenance cost increase and the inability of the shop to take full advantage of the Intergraph design stations. The mission can be accomplished with difficulty at higher costs. Procurement of the project will enhance NNSY ability to meet schedules at minimum cost.

B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 27/VERTICAL RECIPROCATING			D. Site Identification PSNSY Bremerton, WA					
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total	Qty	Unit Cost	Total	Qty	Unit Cost	Total	Qty	Unit Cost	Total
Non ADP	1	0	180	1	480	480						

Narrative Justification:

Description

This project provides for the procurement of a Vertical Reciprocating Conveyor (VRC) and installation in Dry Dock 5. The unit will be used for transport of equipment and materials (up to 8,000 lbs) into and out of the dry dock.

Justification

During dry dock operations, portal and mobile cranes are in great demand. Material and equipment necessary to support the processes wait for days without being moved. Additionally, material backs up waiting to be removed from the dry dock. This situation impacts production schedules and creates safety hazards inherent with dry dock clutter.

A time and motion study conducted by the Shipyard compared the time and cost per lift (under 8,000 lbs.) for portal cranes, to an existing vertical reciprocating conveyor (VRC #1) located in Dry Dock 4. The results show that portal crane operations cost $60.50 per lift, compared to $1.53 per lift for the VRC (a savings ratio per lift of 40:1). During recycling dry dock operations (3 shifts/day), an average of 7,500 lifts are in the under 8,000 lbs. category. Additionally, it was observed that Dry Dock 4 no longer has the problem of material backup/clutter still being experienced in the other dry docks.

Procurement of the requested VRC will result in an annual savings of $417K. The payback period 2.64 years.

Impact

Delay in funding this project will necessitate continued inefficient and costly use of portal and mobile cranes for transferring equipment and material (loads under 8,000 lbs.) into and out of the dry dock. The annual savings of $417K will be forfeit.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)									A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES			
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 28/TRUCK, STRADDLE-CARRY, NARROW (Replacement)				D. Site Identification PSNSY Bremerton, WA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP				2	0	20	2	320	640			

Narrative Justification:

Description

This project provides 2 replacements for 3 existing Straddle-Carry Trucks (Narrow) (USN #15-00117, 15-00095 & 15-00100), which are beyond their nomal service life. The units frequent down time, high maintenance costs, and are worn beyond economical repair.

Justification

The shipyard uses straddle carry trucks (narrow) to transport heavy machinery and scrap metal from inside building and around piers where production work is be performed in narrow aisle work areas. . They are also used to transport small tanks and general shipyard operations including the ship recycling program. Straddle trucks are the most cost efficient means of transporting these materials because they have the capability to pick up and carry heavy loads using only one operator. When these trucks are out of service for repair/maitenance, the only practical alternate transport is by tractor-trailer truck. In addition to the additional direct costs (crane, crane operator & rigger crew at both ends of the trip), it impacts the schedule by requiring more clock time . Some loads can be delayed, but for those that can't, the impact on production labor hours is conservatively estimated to equal the downtime for the straddle trucks.

The trucks are unreliable and require frequent, costly repairs. One has been surveyed as beyond repair. The average downtime for the other two is 3,600 hours/year with average repair/mintenance costs of $33K. A market search failed to find a source for lease of replacements. Rebuild is not cost effective when the impact of 12-18 weeks of continuous downtime is added to the estimated $450K rebuild cost.

Impact

Delay in funding this project will result in a continual rise in down time and repair cost for the straddle trucks, plus increasingly adverse impact on production costs. Replacement with new straddle carry trucks will result in an annual savings of $188K. The payback period will be 4.76 years.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)			A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 30/CONVERSION OF BLAST BOOTH #2 (Productivity)		D. Site Identification NNSY Norfolk, VA

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP							1	648	648			

Narrative Justification:

Description

The new screw type conveyor system will remove abrasive grit from all areas of the blast booth. The new system will consist of nine new screw conveyors with associated steel insert pans and hydraulics unit to run the conveyors. o

Justification

The existing blast booth was built with a cable pulled, rubber flap, floor sweeper grit recovery system which is designed to continuously recycle blasting abrasive. . Maintenance costs are high due to the destructive nature of abrasive blasting. The existing floor sweeps breakdown an average of once a month. Breakdowns require extensive manpower to repair and cleanup causing delays to work being accomplished at the facility. Cleanup costs to correct booth breakdowns are $3,500/yr. The new screw conveyor system will eliminate the problems associated with maintenance of the sweeper system. Spare parts costs will be reduced by $25,000/yr. Maintenance labor costs will be reduced by $36,000/yr.

Impact

Mission can be accomplished, but not without difficulty. Schedule improvement is expected immediately. With the new system reliance on overtime is expected to be reduced by $12,000 due to reduced downtime. In the event that the booth id down and schedules cannot be compromised, expensive and environmentally unfriendly dry-dock blasting, must be enacted for the shipyard to meet mission requirements. The cost of these containments will be $10,000/yr. Annual savings are $111,608/yr.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)				A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES		
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98		C. Line# and Description 31/CRUISER CRANE, 65 TON (Replacement)			D. Site Identification PNSY Portsmouth, NH	

ELEMENTS OF COST	FY 1997 Qty	FY 1997 Unit Cost	FY 1997 Total Cost	FY 1998 Qty	FY 1998 Unit Cost	FY 1998 Total Cost	FY 1999 Qty	FY 1999 Unit Cost	FY 1999 Total Cost	FY 2000 Qty	FY 2000 Unit Cost	FY 2000 Total Cost
Non ADP							1	600	600			

Narrative Justification:

Description

This project will procure a 65 ton general purpose cruiser-type mobile crane to provide weight handling service throughout the shipyard. This crane will replace an existing 60 ton cruiser crane purchased in 1989 (USN 82-05326) and is intended to provide improved capability, reliability and maintainability over the existing crane from 1999 onwards. The crane will be purchased from DCSC via a fixed priced contract.

Justification

This project is essential to support both submarine overhaul work and other assigned productive work at PNS. This crane will be used to unload large items where other crane service is unavailable. Typically such items include loading and unloading of trailer trucks, facility components and equipment, bow dome support equipment, and submarine parts stored at PNS. It also gives us the versatility of using a mobile crane to cover for another crane during an outage period due to scheduled maintenance or breakdown. The new crane's improved reach and capacity will give us the ability to handle additional bulky items which we expect to receive in the future. NAVSEA 07/08 have supported purchasing mobile cranes in place of renting them to reduce the possibility of accidents caused by operators who are unfamiliar with the equipment being operated. This is an initiative started by PSNSY where several accidents (one fatal) have occurred.

Impact

Delay of this project can have direct effect on maintaining ship schedules. This crane will be used in part to supplement other cranes which are out of service for annual maintenance or due to unexpected breakdowns. Reliable crane service is also necessary to retrieve stored spare components on an emergency basis to support fleet requirements.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)	A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES

B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 32/TRUCK, PRIME MOVER, SELF-LOADING (Replacement)	D. Site Identification PSNSY Bremerton, WA

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	2	0	10	3	145	439	1	150	150			

Narrative Justification:

Description

This project provide 2 new Self Loading Prime Mover Trucks to replace 3 existing trucks (USN # 58-02021, # 58-02263 & # 58-02264) which are past their normal service life, and worn beyond economical repair.

Justification

The Shipyard owns 6 self loading prime mover trucks to haul all types of refuse for disposal. This includes normal garbage/trash from general shipyard operations and ships undergoing availability, and scrap materials from ship recycling operations. One truck is being leased (at $5K/mo) for hauling hazardous materials. The three trucks to be replaced by this project are worn out, and have frequent down time requiring costly repairs. They have an average annual repair/maintenance cost of $31,257 (increasing), and last year had a combined down time of 3,675 hours. The adverse impact of down time on shipyard operations is difficult to quantify, but are estimated to equate to 50% of the down time in labor costs ($84K/yr). Safety is also an increasing concern.

Due to the age of the trucks (1 at 20 yrs & 2 at 12 yrs) complete rebuild at an estimated cost of $239K is not considered economically prudent. It is anticipated that the trucks will have to be permanently removed from service within 2 years. Although all 3 trucks could be replaced by 2 rental trucks (in good condition), lease costs at $120K/yr would equal the purchase price of 2 new trucks in 2.5 years.

Impact

Delay in procurement of the 2 new trucks will necessitate long term lease at an annual cost of $120K. Purchase of the trucks will result in a payback period of 3.63 years.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)							A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES					
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 33/CRANE, BRIDGE, 50 TON, OVERHAUL, B92 (Replacement)				D. Site Identification PNSY Portsmouth, NH				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	1	0	75	1	499	499						

Narrative Justification:

Description

This project will overhaul a 50 ton capacity, cab operated, bridge crane (USN# 102-400119) located in the high bay of the Shipfitter's and Welding Shop, Building 92. The project will install a modern 5-speed DC magnetic control, new bridge lights, replace worn bridge wheels, and replace worn mechanical components (bearings, couplings, etc.).

Justification

This building is among the most active at the shipyard and directly supports submarine overhauls. This crane is uniquely suited to support the shipyard's large plate rolling capability. This crane is a 1940 crane which is in good condition mechanically and structurally. The electrical control system on the crane is obsolete and replacement parts are difficult to obtain, requiring long lead times and significant engineering involvement to design/verify new parts. For example, since 1994, sixteen separate instances of a control system or bridge brake malfunction have been documented (both will be replaced). The crane has also shown evidence of unacceptable skewing; repair of this condition is expensive with the crane in place but can be more cheaply performed as part of an overhaul. The overhauled crane will be safer, with personnel protected from high voltage components. Due to the overall robustness of the 1940s design, the overhauled crane is expected to be as good as a new crane and will cost slightly over one third the cost of a new procurement (estimated at $1.4 million).

Impact

This project has a significant effect on ship schedules. This crane has the largest capacity in the building. Crane support is constantly required in this building and mobile cranes cannot always fill the gap when this bridge crane is out of service. This shop supports the overhaul and manufacturing of large ship components and structural facilities and is often in the critical path for submarine un-docking schedules.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)							A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES					
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 34/FIRE TRUCK, LADDER (Replacement)				D. Site Identification PSNSY Bremerton, WA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	1	0	8	1	562	562						

Narrative Justification:

Description

This project will provide a replacement for an existing 17 year old ladder truck which is unreliable and costly to maintain. Project p016-98 is a companion project to provide enclosed storage space for the truck.

Justification

OPNAV 11320.23F and NAVFAC P1021 requires the Shipyard to maintain an aerial ladder truck to provide fire fighting and rescue capability to high rise structures (4 stories or higher), such as the shipyard Bachelor Enlisted Quarters, and ships. The existing truck is one of only two ladder trucks in Kitsap County, and also supports the Shipyard's agreement with the community for reciprocal fire protection. The ladder truck is one of ten manufactured for the Navy in 1980 by Pierreville company, which later went out of business to escape the liability associated with poor reliability of the units. It is the last of the ten trucks still in service, and is now beyond the ten year service established by NAVFAC. In recent years unit downtime has increased markedly from 6% in 1992 to 30% in 1995, due to serious deficiencies with the engine and hydraulic system. Major rebuild is not considered a viable option due to the poor design of the unit.
Replacement is of the ladder truck is considered mandatory to comply with OPNAV and NAVFAC criteria for fire fighting equipment. The principal economic benefit would be reduced fire loss, which is indeterminate. Lesser benefit would be reduction of maintenance cost, estimated at an average of $20,000 per year. Based upon reduced maintenance cost alone, payback would be 30 years.

Impact

Delay of funding for this project will necessitate the continued use of the existing ladder truck, with high maintenance cost and increased potential for fire losses.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)	A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES	
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 35/NFPC, PITCHOMETER (Productivity)	D. Site Identification NNSY Norfolk, VA

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP				1	565	565						

Narrative Justification:

Description

The Pitchometer is used to measure propeller pitch at specified radial intervals. The system shall consist of a Kempf and Remmers D40 Pitchometer complete with drilling device, parallelogram measuring bow, digital read out and print out components mounted on a rack, 40" vertical extension.

Justification

The Navy Foundry and Propeller Center has 4 pitchometers, 3 are permanently located in Bldg. 1029 for in-process use during machining phases, and 1 is used in the foundry to layout propeller molds in the casting pit. The pattern makers do not have a Pitchometer dedicated for them for use during the building of the propeller patterns. The foundry Pitchometer is presently shuffled between the Pattern makers and the foundry located in two different buildings. This Pitchometer is old (1962), worn out, and totally inaccurate for pattern construction. Patterns are made oversized to allow for measurement errors. The extra metal translate into more machining time, and longer delivery schedules. Attempts to acquire Pitchometers from Charleston, and Long Beach Naval Shipyards have failed because the Reuse Authorities at both Shipyards refused to release the equipment to NFPC.

Impact

The mission can be accomplished but not without difficulty. Production and maintenance hours per year will be reduced. NFPC's capability to continue to produce quality propellers will improve. The shuffling of an old wornout, and inaccurate pitchometer will be eliminated, thereby enhancing the ability to meet schedules on time.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)		A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 37/CNC BEAM PROFILER (Productivity)	D. Site Identification PSNSY Bremerton, WA

ELEMENTS OF COST	FY 1997 Qty	FY 1997 Unit Cost	FY 1997 Total Cost	FY 1998 Qty	FY 1998 Unit Cost	FY 1998 Total Cost	FY 1999 Qty	FY 1999 Unit Cost	FY 1999 Total Cost	FY 2000 Qty	FY 2000 Unit Cost	FY 2000 Total Cost
Non ADP	1	0	45	1	478	478						

Narrative Justification:

Description

This project provides a CNC beam profiler (automated flame cutting system) which will replace current manual methods of cutting steel beams to structural shape requirements.

Justification

The Shipfitter/Boiler Shop uses a variety of structural steel shapes in their manufacturing applications. Current and future workload on Barges, M130 Shipping Skids, RCD support fixtures, etc., dictates the need for various cutting processes to be performed on the shapes in order for them to be used. The present manual method requires lofting templates and sketches from design drawings. The sketches are given to the shop mechanics, who then layout, cut, cope, miter, and bevel the shapes. Although sawing is the preferred cutting method, hand torch and track mounted motorized torch cutting is used when size configuration, personnel and saw availability dictate. End shaping and final clean-up is done by hand.

Procurement of the CNC Beam Profiler will eliminate manual lofting of templates, layout, and manual cutting (along with most clean-up) by programming the structural shape parameters directly into the machine via CAD/CAM. This will generate an average annual savings of $274K. The payback period will be 2.99 years.

Impact

Delay in funding this project will necessitate continued use of manual methods for producing structural steel shapes. Annual savings of $274K will be missed.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)	A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES			
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 38/Miscellaneous (Non ADP < $500K)		D. Site Identification NA	
	FY 1997	FY 1998	FY 1999	FY 2000
ELEMENTS OF COST	Total Cost	Total Cost	Total Cost	Total Cost
TOTAL COST	6886	15555	569	0

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)						A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES						
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 40/REPLACE BANYAN VINES (Hardware)				D. Site Identification NSY Arlington, VA (all sites)				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				1	6500	6500	1	4875	4875			

Narrative Justification:

Description

The purpose of this project is to acquire the software and operating hardware platforms to replace the existing BANYAN VINES operational infrastructure in the Naval Shipyards. This entails the acquisition of a new corporate Windows NT based network operating system, server platform and clients in addition to client operating and applications software to create a seamless, uniform, and flexible base level infrastructure supporting high end voice, video, and data transmission that provides flexible growth, centralized management, and inter-operability within DOD.

Justification

OSD/C4I ltr of 9 March 1996, Subj: Electronic Messaging Policy requires one seamless, end-to-end global electronic messaging service within the Department of Defense. This service must meet department requirements outlined by the joint staff and be consistent with the objectives for interoperable electronic messaging.

Impact

The naval shipyards are currently connected via standard FDDI-based communications network utilizing Banyan Vines network operating system. NAVSEA is connected to the shipyards via a mix of fiber and broadband network utilizing the Novell network operating system. There are frequent communications lapses due to the incompatibilities between the two operating systems. There are also difficulties between the shipyards and fleet support activities with whom the shipyards must communicate in implementing regional maintenance concepts and initiatives supporting Navy Logistics Maintenance Systems. In order to the meet the OSD/C4I requirement, the shipyards are migrating to a Windows NT based environment provided by the Defense Messaging System initiative and IT21. This migration will also resolve the problem that the current shipyard operating environment, which is a mix of Windows (3.1) and SCO/UNIX, is nearing obsolescence, overly complex and is expensive to maintain. Replacing Banyan Vines with the Microsoft Exchange product line will also result in ability of the shipyard to meet mandatory DOD C2 security requirements and, most importantly result in a computer and communications infrastructure that is fully compatible with the fleet and meets DOD-wide interoperability objectives.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)		A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 42/MIZ 30 TUBE INSPECTION EQUIPMENT (Hardware)	D. Site Identification PNSY Portsmouth, NH

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				3	0	14.001	3	185	555			

Narrative Justification:

Description

The Eddy current inspection (ET) system shall be complete and consist of the following: MIZ-30 Data Acquisition system, analysis system, and support equipment. The components listed shall function as an independent Eddy current phase analysis acquisition and analysis system. The system shall perform inspection in accordance with MIL-STD-2032. All components, including encoders, shall be interchangeable with existing equipment.

Justification

NAVSHIPYD Portsmouth currently uses Zetec MIZ-18 equipment for the inspection of main condenser tubes. MIZ-18 equipment is now obsolete by the manufacturer and will no longer be available as a result of Hewlett Packard's decision to end support for the 200/300 series computer (an integral part of the MIZ-18 system). Recent correspondence and meeting minutes suggest that all shipyards will seek to procure the next generation of tube inspection equipment (MIZ 30), when approved by Eddy Current Test Inspection Procedures (ECTIP). The MIZ-30 would be the fourth generation inspection system.

is project has substantial savings. It is anticipated that the existing MIZ 18 equipment will not meet reliabilty requirements by the year 2000 and the only alternative will be to contract out the tube inspection. The current cost to perform one (1) in house 100% tube inspection is $50,687 (USS Providence (SRA) in 1996) and the estimated cost by a contractor for the same inspection is $119,949 per a February 1997 cost estimate. This estimate does not reflect emergent or international inspections or smaller inspection requirements that can increase the cost by 6.8 times. Portsmouths historical workload is eight planned and two emergent inspections. The estimated payback is one year.

Impact

This project will posture NAVSHIPYD Portsmouth to support all assigned work. Eddy current inspection systems are required to support Portsmouth's current and future workload. Continued emphasis on off-yard work puts a real strain on supporting all Portsmouth assigned Eddy current work with just three systems. This project represents a phased replacement to the next generation equipment.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)		A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 44/DEFENSE MAINTENANCE STANDARD SYSTEM	D. Site Identification NSY Arlington, VA (all sites)

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Software							1	15400	15400			

Narrative Justification:

Description

By CNO N432K memorandum of 21 July 1997, the Navy Maintenance Support Office (NMSO) located at NNSY has been designated the System Support Group (SSG) for Navy Depot Maintenance Systems (excluding NIFMS and MRPII) in anticipation of closeout of the JLSC at the end of FY98. Beginning in FY99, JLSC surcharge will be eliminated and NMSO will be responsible for standard system maintenance modernization and enhancement. The maintenance and modernization for these systems will be funded by NWCF. This project provides funding for the continued support for these Navy Depot Maintenance Systems as directed by Navy/OSD, and as supported by DON during the FY1999 budget review. Funding supports the DM software maintenance interface and integration among Navy-wide systems, including legacy system interfaces and ADPE to support same.

Justification

This program is mandated. Depot Maintenance Standard Systems are supported by comprehensive Economic Analysis.

Impact

If this project is not funded, Navy will lose all cost/benefits accrued to date in the implementation of Standard Depot-wide systems and be forced to revert to local initiatives and maintenance. This will result in duplicative development and maintenance costs

B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 45/DEPOT LEGACY SYSTEMS				D. Site Identification NSY Arlington, VA (all sites)			
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total	Qty	Unit Cost	Total	Qty	Unit Cost	Total	Qty	Unit Cost	Total
ADP				1	9300	9300	1	2900	2900			

Narrative Justification:

Description

These funds were transferred to Navy as a result of Program Budget Decision 401 (PBD 401), transfer of capital authority from the Joint Logistics Systems Center (JLSC) to NAVSEA. PBD 426 also transferred the FY99 capital funding from the Marine Corps to the Naval Shipyards. The funds identified are specifically earmarked for infrastructure and legacy system modernization to the existing legacy systems and were formerly programmed and budgeted through JLSC.

Justification

The Depot Maintenance standard automated information systems were managed by the JLSC, the DOD designated Corporate Information Management (CIM) agent for depot level logistics systems. As a result of PBD 401, JLSC was disbanded and funding was returned to the commands. The legacy systems addressed with this funding include the Baseline Advanced Industrial Management (BAIM), Shipyard Laboratory Information Management System (SLIMS), Supervisor's Desk (SUPDESK), and various existing industrially based applications.

Impact

This funding is required to support enhancements and mandatory modifications to the standard corporate infrastructure to comply with JTA/IT21 directions, make the necessary software changes to ensure Y2K compliance and support critical software interfaces and integration of fleet support legacy systems (MRMS, SUPDESK, MRP, STARS-FL) and BAIM in support of Navy regional maintenance objectives.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)							A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES					
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 46/DEPOT MAINTENANCE ACCOUNTING SYSTEM - NIFMS				D. Site Identification NSY Arlington, VA (all sites)				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Software				1	983	983	1	1506	1506			

Narrative Justification:

Description

The NAVAIR Industrial Management System (NIFIMS) has been selected as the Depot Standard Accountinc System and as such shall be deployed to all Depot Maintenance activities within the Navy. It will perform core accounting functions such as funds distribution, general ledger, cost accounting anc fixed assets tracking. NIFMS will require an interface with existing feeder systems.

This program is mandated.

Justification

Impact

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)		A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES		
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 47/Miscellaneous (Software < $500K)	D. Site Identification NA		
	FY 1997	FY 1998	FY 1999	FY 2000
ELEMENTS OF COST	Total Cost	Total Cost	Total Cost	Total Cost
TOTAL COST	0	20	10	0
CASH MODEL LICENSE PURCHASES		20	10	

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)				A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES								
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98				C. Line# and Description 48/MOVE IRR TO INDOOR LOCATION				D. Site Identification PSNSY Bremerton, WA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Minor Construction				1	0	60	1	475	475			

Narrative Justification:

Description

This project provides rail track extension, power upgrade and additional rest room facility tc establish an indoor Ship Recycling Process Center.

Justification

The Shipyard is scheduled to perform recycling of submarines continuously on into the next century. Recycling operations are presently done outdoors in several makeshift facilities. Two of the existing facilities which will be consolidated are in the developing fleet operation area of the Shipyard. These heavy industrial activities present a risk to the high traffic and family occupation in this area. Consolidation of these operations into a single indoor location within the CIA, will significantly improve employee health and safety conditions, management of process and material flow, and will precipitate a reduction in supervision and transportation related costs. Process throughput will be improved by utilization of superior material handling equipment existing within in the proposed process center. The Shipyard has agreed with the Puget Sound Air Pollution Control Agency (PSAPCA) that it is economically feasible to provide best available control technology tc minimize smoke emissions from all "out of dock" hull cutting operations. By locating the off-hull cutting operations indoors this will allow the Shipyard to comply with PSAPCA requirements. Additionally, the present outdoor cutting operations present a risk of contaminated rain water and fire watch water runoff exceeding Shipyard NPDES water permit. Placing recycle operations indoors will eliminate this risk. NAVSEA PMS 392 is interested in Shipyard development of productive and environmentally safe production facilities to assure continued ability to meet recycling schedule at bid cost. Recycling operations are presently 45% of the shipyard workload and "out of dock cutting" will be increasing in the next few years due to the need to cut 688 class hulls to the one frame rule. This project also represents a probable "last chance" to establish a viable production line for this work. The availability of an existing indoor facility is occurring due tc consolidation of FISC and DLA operations

Impact

This project is primarily driven by environmental compliance. However, some health, safety, and worker quality of life benefits are expected.

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC (Dollars in Thousands)	A. Budget Submission FY 1999 AMENDED BUDGET ESTIMATES			
B. Component/Business Area/Date DON/DEPOT MAINT/NSY/JAN 98	C. Line# and Description 49/Miscellaneous (Minor Construction < $500K)		D. Site Identification NA	
	FY 1997	FY 1998	FY 1999	FY 2000
ELEMENTS OF COST	Total Cost	Total Cost	Total Cost	Total Cost
TOTAL COST	2466	2602	1549	0
M/G TEST POWER MOD (ADDITIONAL FUNDS)	11			
CIA SECURITY LIGHTING (ADDITIONAL FUNDS)	12			
BLDG 1500 ENTRANCE CANOPY AND LOBBY RENOVATION	34			
VACATE OLYMPIC BLDG		60		
MISC MINOR CONSTRUCTION DESIGN COST FY98		94		
CONSTRUCT SPECIAL PURPOSE WORK AREA, BLDG 163	130			
PROVIDE WEATHER PROTECTION (B-290)		24	117	
CONSTRUCT NEW SALT/SAND STORAGE FACILITY	144			
BLDG 163 ALT TO SMALL BILLET FORGING & STOR CELLS	145			
RELOCATE CRISP TRAINING TO BLDG 426 NORTH END	148			
BLDG 163 ALT TO HEAT TREATING CELL	160			
ELECTRICAL LOAD HOUSE DUCT BANK (DRY DOCK #3)	160			
RELOCATE CODE 910HZ	32	158		
BUILDING ALTERATIONS, BLDG 171	195			
CONSTRUCT NATURAL GAS LINE, BLDG 369	195			
BLDG 163 ALT TO LARGE BILLET FORGING CELL	199			
VACATE BREMER'S BLDG	41	158		
CONSTRUCT CRANE TEST SITE WEST END	227			
MODIFY BLDG. 311 FOR PURE WATER PROD.	240			
MINOR CONSTRUCTION DESIGN COST			250	
CONSTRUCT PIN SLAB FOUNDATION	257			
CONSTRUCT CATAPULT REPAIR FACILITY		36	240	
ESTABLISH PERMANENT NITROGEN SYSTEM AT BERTH 11/13		38	250	
HAZARD / FLAM REPACKING AND DISP. AREA, B337	38	250		
CONSOLIDATE DD6 PROD SUPPORT		49	242	
RELOCATE WELDING SCHOOL	49	242		
PROVIDE ADDED FIRE TRUCK SPACE	49	245		
CONSTRUCT EMPLOYEE PARKING LOT		300		

BUSINESS AREA CAPITAL PURCHASES JUSTIFIC
(Dollars in Thousands)

A. Budget Submission
FY 1999 AMENDED BUDGET ESTIMATES

B. Component/Business Area/Date
DON/DEPOT MAINT/NSY/JAN 98

C. Line# and Description
49/Miscellaneous
(Minor Construction < $500K)

D. Site Identification
NA

	FY 1997	FY 1998	FY 1999	FY 2000
ELEMENTS OF COST	Total Cost	Total Cost	Total Cost	Total Cost
TOTAL COST	2466	2602	1549	0
CONSTRUCT POST OFFICE		300		
LOCOMOTIVE / MOBILE CRANE SERVICE PITS		300		
INSTALL SECURITY LIGHTS (B-431)		348		
VACATE OLYMPIC BUILDING			450	

Navy Working Capital Fund Capital Investment Summary
Business Area: DON/Depot Maintenance
Component: NAVAL SHIPYARDS
FY 1999 AMENDED BUDGET ESTIMATES
($ in Millions)

FY	PROJECT TITLE	98/99 PRES BUDGET	ASSET / DEF	FY 99 PRESIDENTS	EXPLANATION
Non-ADP Equipment					
98	TRUCK, STRADDLE-CARRY, WIDE	0.680	-0.080	0.600	Decreased costs
98	18 TON ROUGH TERRAIN CRANE	1.800	0.000	1.800	No change
98	M-130 ENCLOSURE PUMPDOWN SYSTEM	0.026	1.006	1.032	Advance FY99 project, design & build in FY98
98	40 TON MOBILE TRUCK CRANES (2)	1.000	0.000	1.000	No change
98	CRANE, MOBILE, 150 TON LATTICE BOOM	0.980	-0.010	0.970	Decreased costs
98	800 TON PRESS BRAKE	0.750	0.000	0.750	No change
98	BRIDGE CRANE - BLDG 215	0.657	0.070	0.727	Increased costs
98	CNC PUNCH/PLASMA FABRICATING CENTER	0.539	0.166	0.705	Increased costs
98	PLASMA CUTTING/PUNCHING MACHINE	0.700	0.000	0.700	No change
98	FIRE TRUCK, LADDER	0.525	0.037	0.562	Increased costs
98	CRANE, BRIDGE, 50 TON, OVERHAUL, B92	0.000	0.499	0.499	$75K FY97 design costs makes project over threshold, project moved from miscellaneous category.
98	MANLIFT, 90 FT	0.505	0.375	0.880	Combined projects in 98 and 99
98	TRUCK, PRIME MOVER, SELF-LOADING	0.000	0.439	0.439	Part of 2 Year buy in FY98/99
98	NFPC, PITCHOMETER	0.000	0.565	0.565	New requirement: Philadelphia Foundry project per CNO directive.
98	VERTICAL RECIPROCATING CONVERYOR #2	0.000	0.480	0.480	$180K in FY97 design costs make project over threshold, project moved from miscellaneous category.
98	10 TON BRIDGE CRANES, 2 EA	1.260	-1.260	0.000	Canceled
98	CNC OXYFUEL/PLASMA FUEL CENTER	0.900	-0.900	0.000	Canceled
98	WALL CRANES FOR BLDG 155, 3 EA	0.750	-0.750	0.000	Canceled
98	CNC BEAM PROFILER	0.478	0.000	0.478	No change
98	CLOSED LOOP UHP WATER JET BLASTER	1.610	-1.610	0.000	Canceled
98	PLASMA PUNCH PRESS	0.850	-0.850	0.000	Canceled

Navy Working Capital Fund Capital Investment Summary
Business Area: DON/Depot Maintenance
Component: NAVAL SHIPYARDS
FY 1999 AMENDED BUDGET ESTIMATES
($ in Millions)

FY	PROJECT TITLE	98/99 PRES BUDGET	ASSET / DEF	FY 99 PRESIDENTS	EXPLANATION
98	MIZ 30 TUBE INSPECTION EQUIPMENT	0.056	-0.056	0.000	Miscategorized. Project is ADP
98	CNC LASER CUTTER	0.600	-0.600	0.000	Canceled
98	MISCELLANEOUS NON-ADP <$500K	9.143	6.412	15.555	Increased costs
98	CRUISER CRANE, 70 TON, DESIGN COST FOR FY99	0.060	-0.060	0.000	Redefined to 65 Ton Cruiser Crane, design cost absorbed in FY99
98	80 TON BRIDGE CRANE B-261, DESIGN COST FOR FY99	0.033	-0.033	0.000	Canceled
98	PORTAL CRANE, 60T, DESIGN COST FOR FY99	3.750	-3.750	0.000	OPN funded under Pearl Pilot
98	2000 TON PRESS BRAKE, DESIGN COST FOR FY99	0.150	-0.110	0.040	Decrease in design cost
98	TRUCK, STRADDLE CARRY NARROW, DESIGN FOR FY99	0.000	0.020	0.020	Design cost for added FY99 project
	Total Non-ADP Equipment	27.802	0.000	27.802	
ADP & Telecommunications Equipment					
98	REPLACE BANYAN VINES	6.500	0.000	6.500	No change
98	MIZ 30 TUBE INSPECTION EQUIPMENT	0.000	0.014	0.014	Miscategorized. Project is ADP
98	MISCELLANEOUS ADP<$500K; >$100K)	0.000	0.000	0.000	No change
Total ADP & Telecommunications Equipment		6.500	0.014	6.514	
ADP Software Development					
98	DIFMS IMPLEMENTATION	0.000	0.983	0.983	new requirement
98	DEPOT LEGACY SYSTEMS	0.000	9.300	9.300	transfer from JLSC
98	CASH MODEL LICENSE PURCHASE	0.000	0.020	0.020	FMB added requirement
Total ADP Software Development		0.000	10.303	10.303	

Exhibit 9D

Navy Working Capital Fund Capital Investment Summary
Business Area: DON/Depot Maintenance
Component: NAVAL SHIPYARDS
FY 1999 AMENDED BUDGET ESTIMATES
($ in Millions)

FY	PROJECT TITLE	98/99 PRES BUDGET	ASSET / DEF	FY 99 PRESIDENTS	EXPLANATION
Minor Construction					
98	MISC. MINOR CONSTRUCTION <$500K	2.662	0.000	2.662	No change
Total Minor Construction		2.662	0.000	2.662	
GRAND TOTAL		**36.964**	**10.317**	**47.281**	

Navy Working Capital Fund Capital Investment Summary
Business Area: DON/Depot Maintenance
Component: NAVAL SHIPYARDS
FY 1999 AMENDED BUDGET ESTIMATES
($ in Millions)

FY	PROJECT TITLE	98/99 PRES BUDGET	ASSET / DEFICIENCY	FY 99 PRESIDENTS	EXPLANATION
Non-APD Equipment					
99	PORTAL CRANES (2)	11.250	(11.250)	0.000	Pearl Harbor FY99 project
99	TRUCK, PRIME MOVER, SELF-LOADER	0.000	0.150	0.150	Part of 2 Year buy in FY98/99
99	1250 TON FORGING PRESS W/DIE ROTATOR	0.000	2.524	2.524	New requirement
99	135 LONG TON PORTAL CRANE	0.000	2.303	2.303	New requirement/design cost for FY00 buy.
99	2000 TON PRESS BRAKE	2.160	(0.660)	1.500	Decrease costs
99	EQUIPMENT DESIGN & ENGIN FOR FY 2000	1.291	(0.439)	0.852	Decrease in FY00 design costs.
99	TRUCK, STRADDLE-CARRY, NARROW (2)	0.000	0.640	0.640	Project previously miscategorized in miscellaneous category.
99	CRUISER CRANE, 65 TON	0.000	0.600	0.600	Project Title cahnged from 70 Ton to 65 Ton, (see below - was line item 27 in Presidents budget).
99	CRUISER CRANE, 70 TON	0.600	(0.600)	0.000	Project Title cahnged from 70 Ton to 65 Ton, (was line item 27 in Presidents budget).
99	MANLIFT, 90 FOOT (4)	0.500	(0.500)	0.000	Decreased costs
99	M-130 ENCLOSURE PUMPDOWN SYSTEM (2)	1.032	(1.032)	0.000	Escalated from 99 to 98
99	80 TON BRIDGE CRANE FOR BLDG. 261	1.300	(1.300)	0.000	No longer needed
99	NFPC, REBUILD PROPELLER PROFILER (SU-10)	0.000	3.300	3.300	New requirement per CNO directive
99	CONVERSION OF BLAST BOOTH	0.000	0.648	0.648	Project moved from miscellaneous category due to cost increase from $311K to $648K.
99	CLOSED LOOP UHP WATER JET BLASTER	1.600	(1.600)	0.000	No longer needed
99	MIZ 30 TUBE INSPECTION EQUIPMENT	0.555	(0.555)	0.000	Miscategorized, should be ADP
99	MISCELLANEOUS NON-ADP, <$500K	3.819	(3.250)	0.569	Decrease in FY99 misc scope
	Total Non-ADP Equipment	24.107	(11.021)	13.086	

Navy Working Capital Fund Capital Investment Summary
Business Area: DON/Depot Maintenance
Component: NAVAL SHIPYARDS
FY 1999 AMENDED BUDGET ESTIMATES
($ in Millions)

FY	PROJECT TITLE	98/99 PRES BUDGET	ASSET / DEFICIENCY	FY 99 PRESIDENTS	EXPLANATION
ADP & TELECOMMUNICATIONS EQUIPMENT					
99	REPLACE BANYAN VINES	6.500	(1.625)	4.875	FMB marked 25% for Pearl Harbor
99	MIZ 30 TUBE INSPECTION EQUIPMENT	0.000	0.555	0.555	Reclassified as ADP requirement
99	MISCELLANEOUS ADP<$500K; >$100K)	0.000	0.000	0.000	No change
	Total ADP & Telecommunications Equipment	6.500	(1.070)	5.430	
ADP SOFTWARE DEVELOPMENT					
99	DIFMS IMPLEMENTATION	0.000	1.506	1.506	new requirement
99	DEFENSE MAINTENANCE STANDARD SYSTEM	0.000	15.400	15.400	New mandated requirement
99	LOGISTICS SYSTEMS	0.000	2.900	2.900	transfer from JLSC
99	DEPOT MAINTENANCE ACCOUNTING SYSTEM	0.000	0.010	0.010	New mandated requirement
	Total Software Development	0.000	19.816	19.816	

Navy Working Capital Fund Capital Investment Summary
Business Area: DON/Depot Maintenance
Component: NAVAL SHIPYARDS
FY 1999 AMENDED BUDGET ESTIMATES
($ in Millions)

FY	PROJECT TITLE	98/99 PRES BUDGET	ASSET / DEFICIENCY	FY 99 PRESIDENTS	EXPLANATION
MINOR CONSTRUCTION					
99	MOVE IRR TO INDOOR LOCATION	0.000	0.475	0.475	New requirement
99	MISC. MINOR CONSTRUCTION <$500K	0.448	1.101	1.549	Miscellaneous threshold changed to >$500K, miscellaneous projects listed on DBOF Exhibit 9B
	Total Minor Construction	0.448	1.576	2.024	
GRAND TOTAL		**31.055**	**9.301**	**40.356**	

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVAL AVIATION DEPOTS

ACTIVITY GROUP FUNCTION

To provide responsive worldwide maintenance, engineering, and logistics support to the Fleet and ensure a core industrial resource base essential for mobilization; repair aircraft, engines, and components, and manufacture parts and assemblies; provide engineering services in the development of hardware design changes, and furnish technical and other professional services on maintenance and logistics problems.

ACTIVITY GROUP COMPOSITION

Activities	Location
NAVAVNDEPOT, Cherry Point	Cherry Point, NC
NAVAVNDEPOT, Jacksonville	Jacksonville, FL
NAVAVNDEPOT, North Island	San Diego, CA

NAVAVNDEPOT Pensacola closed in fiscal year (FY) 1995, NAVAVNDEPOT Alameda closed in FY 1996, and NAVAVNDEPOTs Norfolk and the North Island Detachment at Pensacola closed in FY 1997.

BUDGET HIGHLIGHTS

Base Realignment and Closure (BRAC). The Naval Aviation Depots (NADEPs) Community is in the final stages of an unprecedented transition of Depot Maintenance Repair Capability for critical Component, Engine and Airframe requirements as a result of BRAC language enacted in 1993. Three of the six depots along with a detachment have been closed resulting in significant reductions to both overhead costs and end strength. BRAC orders in this budget are as follow ($ in millions (M)):

	FY97	FY98	FY99
Orders	$26.4M	$5.5M	$0.0M
Workyears	60	0	0

Quarterly Depot Maintenance Surcharges. Beginning in FY 1998, the depots will implement quarterly depot maintenance surcharges to recover FY 1998 operating losses previously unbudgeted. This change in policy for all Working Capital Fund depot maintenance activities will provide for more immediate recovery of operating losses or reversion of gains (i.e., FY 1998 vice FY 1999). The amount included in this budget for the quarterly depot maintenance surcharges is $71.0M in FY 1998.

Stabilized Rates. The FY 1998 composite stabilized rate of $119.73 is consistent with the FY 1998 President's Budget workload estimates and customer funding levels. The FY 1999 rate is $127.52, an increase of 6.5% over the composite FY 1998 stabilized rate. The FY 1999 rate was developed to recover all FY 1999 operating costs and recoup a cash surcharge of $20.7M or $1.53/direct labor hour (DLH).

Unit Cost Goals. The budget reflects the following FY 1997-1999 unit cost goals ($ and DLHs in M):

	FY97	FY98	FY99
Total Cost Incurred	$1,524.8	$1,650.9	$1,720.2
DLH	12.642	13.199	13.404
Unit Cost	$120.61	$125.08	$128.33
% Change Workload/DLHs	-	+4.4%	+1.6%
% Change Unit Cost	-	+3.7%	+2.6%

The increase in the unit cost between FY 1997 and FY 1999 is due primarily to inflation, particularly a 26.3 percent increase in Navy Supply material costs in FY 1998.

Workload. New reimbursable orders required to finance NADEPs operations for FYs 1997 through 1999 are $1,517.3M, $1,576.1M and $1,704.2M. The increase between FY 1998 and FY 1999 is attributed primarily to increase funded hours in the airframe (253,893) and modification (202,824) programs and elimination of a negative recoupment in FY 1998. The significant increase in orders in FY 1998 ($100.9M) and in FY 1999 ($262.6M) over the President's Budget is due to an increase of 902,370 and 803,980 funded hours. Programs with significant increases were components and other support.

Revenue. Revenue projections are $1,548.3M in FY 1997, $1,591.6M in FY 1998 and $1,691.4M in FY 1999. The increase between the latter two years is attributed primarily to increased allocated hours in the airframe (169,510) program and the elimination of the FY 1998 negative recoupment offset by reduced cash surcharge and component allocated hours. The increase in revenue of $115.1M in FY 1998 and $267.3M in FY 1999 over the President's Budget is caused by an increase of 959,337 and 965,387 allocated hours. Programs with significant increases are components and other support.

Costs. Cost of Goods and Services estimates for FYs 1997 through 1999 are $1,400.5M, $1,591.3M and $1,672.3M. The increase between the years and from the FY 1998 President's Budget reflects the increased allocated hours discussed above.

SUMMARY OF PERSONNEL RESOURCES

	FY 1997	FY 1998	FY 1999
Civilian Personnel:			
End Strength	11,789	11,974	11,974
Workyears w/OT*	13,333	13,270	13,166
Workyears w/o OT	11,829	11,934	11,919
Military Personnel**:			
End Strength	101	106	160
Workyears	101	106	160

* Workyears w/OT includes contractor workyears: 303 in FY 1997, 42 in FY 1998, and 160 in FY 1999.
** FY 1999 includes 45 headquarters personnel who become reimbursable in that year.

Direct overtime percentages in this budget are 12.3% in FY 1998 and 11.8% in FY 1999. The ability to supplement the civilian workforce with contractors performing in-house work allows the depots to accomplish their assigned work well within projected overtime rates and complete workload within required timeframes.

SUMMARY OF NEW CUSTOMER ORDERS:

	($ in Millions)		
Navy Appropriations and Funds:			
O&M,N	$ 563.4	$ 603.9	$ 674.8
R&D	21.0	32.3	44.0
Procurement	164.0	135.3	162.2
Other Navy Customers	730.0	776.0	800.8
Other DoD Customers	36.2	17.0	11.8
Non-DoD Customers	2.7	11.6	10.6
Total All Customers	$1,517.3	$1,576.1	$1,704.2

SUMMARY OF OPERATIONS:

	($ in Millions)		
Revenue	$1,548.3	$1,591.6	$1,691.4
Cost of Goods	1,400.5	1,591.3	1,672.3
Revenue less Costs	147.8	0.3	19.1
Net Operating Results	147.8	0.3	19.1
Reservation of Surcharge	-135.2	-91.6	-32.9
Prior Year Adj Transfers & Other Adj	6.6	71.0	0.0
AOR	34.1	13.8	0.0

SUMMARY OF THE CAPITAL PURCHASES PROGRAM:

Capital Purchases Program requirements are as follow ($ in millions):

	FY 1997	FY 1998	FY 1999
Non-ADP	**29.197**	**22.891**	**26.745**
Equipment	27.268	18.481	20.727
Minor Construction	1.929	4.410	6.018
ADP	**16.815**	**16.971**	**22.060**
ADPE & Telecom	16.815	7.155	3.325
Software Development	0	9.816	18.735
Total	**46.012**	**39.862**	**48.805**

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
NADEP / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	1,384.0	1,466.3	1,622.4
Surcharges	135.2	91.6	32.9
Depreciation excluding Major Constructio	29.2	33.8	36.2
Other Income			
Total Income	1,548.3	1,591.6	1,691.4
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	5.7	5.5	6.3
Civilian Personnel	654.3	669.3	676.0
Travel and Transportation of Personnel	39.4	23.9	24.7
Material & Supplies (Internal Operations	581.6	587.6	620.1
Equipment	15.0	98.8	106.0
Other Purchases from NWCF	37.9	44.1	45.3
Transportation of Things	2.0	1.4	1.5
Depreciation - Capital	29.2	33.8	36.2
Printing and Reproduction	2.6	3.3	3.4
Advisory and Assistance Services	9.4	1.7	1.7
Rent, Communication & Utilities	31.9	32.4	32.8
Other Purchased Sevices	116.0	149.1	166.2
Total Expenses	1,524.8	1,650.9	1,720.2
Work in Process Adjustment	-98.0	-33.4	-22.1
Comp Work for Activity Reten Adjustment	-26.3	-26.2	-25.8
Cost of Goods Sold	1,400.5	1,591.3	1,672.3
Operating Result	147.8	.3	19.1
Less Surcharges	-135.2	-91.6	-32.9
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	6.1	.0	.0
Net Operating Result	18.7	-91.2	-13.8
Other Changes Affecting AOR	.4	71.0	.0
Accumulated Operating Result	34.1	13.8	.0

Exhibit Fund-14

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NADEP / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	1,517.3	1,576.1	1,704.2
a. Orders from DoD Components	805.3	838.2	958.8
Department of the Navy	769.1	821.2	947.0
O & M, Navy	563.4	603.9	674.8
O & M, Marine Corps	.4	.0	.0
O & M, Navy Reserve	19.5	23.3	38.8
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	159.6	134.0	160.8
Weapons Procurement, Navy	.0	.0	.0
Ammunition Procurement, Navy/MC	.0	.0	.0
Shipbuilding & Conversion, Navy	-.1	.1	.1
Other Procurement, Navy	4.5	1.3	1.4
Procurement, Marine Corps	.0	.0	.0
Family Housing, Navy/MC	.0	.0	.0
Research, Dev., Test, & Eval., Navy	21.0	32.3	44.0
Military Construction, Navy	.0	.0	.0
Other Navy Appropriations	.9	26.3	27.1
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	.9	.1	.1
Army Operation & Maintenence	.1	.1	.1
Army Res, Dev, Test, Eval	.8	.0	.0
Army Procurement	.0	.0	.0
Army Other	.0	.0	.0
Department of the Air Force	7.3	10.9	11.3
Air Force Operation & Maintenence	4.9	4.9	4.7
Air Force Res, Dev, Test, Eval	.1	1.3	1.3
Air Force Procurement	2.3	4.7	5.3
Air Force Other	.0	.0	.0
DOD Appropriation Accounts	28.0	6.0	.4
Base Closure & Realignment	26.4	5.5	.0
Operation & Maintence Accounts	.2	.0	.0
Res, Dev, Test & Eval Accounts	.8	.5	.3
Procurement Accounts	.5	.0	.0
DOD Other	.1	.0	.0
b. Orders from NWCF Business Area	675.8	687.8	697.9
c. Total DoD	1,481.1	1,526.1	1,656.7
d. Other Orders	36.2	50.0	47.5
Other Federal Agencies	2.6	11.4	10.4
Foreign Military Sales	33.5	38.5	36.9
Non Federal Agencies	.1	.1	.1

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NADEP / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	1,051.7	1,020.7	1,005.2
3. Total Gross Orders	2,569.0	2,596.8	2,709.4
4. Funded Carry-Over **	1,020.7	1,005.2	1,018.0
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	1,548.3	1,591.6	1,691.4

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

Exhibit Fund-11

CHANGES IN COST OF OPERATIONS
DEPARTMENT OF THE NAVY
BUSINESS AREA:
Naval Aviation Depots
(DOLLARS IN MILLIONS)

1.		FY 1997 Actual	1,524.8
2.		FY 1998 President's Budget	1,438.8
3.		Pricing Adjustments	(1.4)
	a.	FY 1998 Pay Raise/Annualization	0.0
	b.	Stock Fund - Fuel	0.0
	c.	Stock Fund - Nonfuel	0.0
	d.	Industrial Fund Purchases	0.0
	e.	General Purchases Inflation	(1.4)
4.		Productivity Initiatives & Other Efficiencies	0.0
5.		Program Changes (Workload Changes)	161.5
	a.	Airframes	22.2
	b.	Engines	26.7
	c.	Components	113.4
	d.	Support Equipment	(6.4)
	e.	PSD	16.6
	f.	Modification Installation	(19.9)
	g.	Other Support	8.9
6.		Other Changes in:	52.0
	a.	FERS/CSRS	2.9
	b.	Change in Stock Fund costs	51.6
	c.	Depreciation	(2.5)
7.		FY 1998 Current Estimate	1,650.9
8.		Pricing Adjustments	(4.0)
	a.	FY 1999 Pay Raise/Annualization	19.9
	b.	Stock Fund - Fuel	(0.2)
	c.	Stock Fund - Nonfuel	(26.0)
	d.	Industrial Fund Purchases	(1.0)
	e.	General Purchases Inflation	3.3
9.		Productivity Initiatives & Other Efficiencies	(6.8)
	a.	CPP	(6.8)
10.		Program Changes (Workload Changes)	77.7
	a.	Airframes	60.4
	b.	Engines	0.4
	c.	Components	(14.8)
	d	PSD	13.8
	e.	Modification Installation	4.2
	f.	Other Support and Support Equipment	13.7
11.		Other Changes in:	2.4
	a.	Depreciation	2.4
12.		FY 1999 Current Estimate	1,720.2

NAVY WORKING CAPITAL FUND
NAVAL AVIATION DEPOTS
MATERIAL INVENTORY DATA
(DOLLARS IN MILLIONS)
FY 1997

	Total	Mobilization	Peacetime Operating	Other
Material Inventory BOP	$153.4	-	$153.4	-
Purchases				
A. Purchases to Support Customer Orders	$596.6	-	$596.6	-
B. Purchases of Long Lead Items in Advance of Customer Orders	-	-	-	-
C. Other Purchases	-	-	-	-
D. Total Purchases	$596.6	-	$596.6	-
Material Inventory Adjustments				
A. Material Used in Maintenance	$620.7	-	$620.7	-
B. Disposals, Theft, Losses Due to Damages	-	-	-	-
C. Other Reduction	-	-	-	-
D. Total Inventory Adjustments	$620.7	-	$620.7	-
Material Inventory EOP	$129.3	-	$129.3	-

NAVY WORKING CAPITAL FUND
NAVAL AVIATION DEPOTS
MATERIAL INVENTORY DATA
(DOLLARS IN MILLIONS)
FY 1998

	Total	Mobilization	Peacetime Operating	Other
Material Inventory BOP	$129.3	-	$129.3	-
Purchases				
A. Purchases to Support Customer Orders	$686.4	-	$686.4	-
B. Purchases of Long Lead Items in Advance of Customer Orders	-	-	-	-
C. Other Purchases	-	-	-	-
D. Total Purchases	$686.4	-	$686.4	-
Material Inventory Adjustments				
A. Material Used in Maintenance	$689.7	-	$689.7	-
B. Disposals, Theft, Losses Due to Damages	-	-	-	-
C. Other Reduction	-	-	-	-
D. Total Inventory Adjustments	$689.7	-	$689.7	-
Material Inventory EOP	$126.0	-	$126.0	-

NAVY WORKING CAPITAL FUND
NAVAL AVIATION DEPOTS
MATERIAL INVENTORY DATA
(DOLLARS IN MILLIONS)
FY 1999

	Total	Mobilization	Peacetime Operating	Other
Material Inventory BOP	$126.0	-	$126.0	-
Purchases				
A. Purchases to Support Customer Orders	$726.0	-	$726.0	-
B. Purchases of Long Lead Items in Advance of Customer Orders	-	-	-	-
C. Other Purchases	-	-	-	-
D. Total Purchases	$726.0	-	$726.0	-
Material Inventory Adjustments				
A. Material Used in Maintenance	$732.7	-	$732.7	-
B. Disposals, Theft, Losses Due to Damages	-	-	-	-
C. Other Reduction	-	-	-	-
D. Total Inventory Adjustments	$732.7	-	$732.7	-
Material Inventory EOP	$119.3	-	$119.3	-

CAPITAL INVESTMENT SUMMARY
NON-ADP PROGRAM-SUBMIT
DEPARTMENT OF THE NAVY
DEPOT MAINTENANCE - AVIATION DEPOTS
($ In Millions)

ITEM LINE #	ITEM DESCRIPTION	FY 1997 Qty	FY 1997 Actual Obligns	FY 1998 Qty	FY 1998 Total Cost	FY 1999 Qty	FY 1999 Total Cost
	1a. EQUIPMENT, OTHER THAN ADPE & TELECOM (>$500K)						
	Replacement						
6 DE 7 EL 0261 P R	ELECTRON BEAM WELDER	1	1.805				
6 DF 7 EL 0001 P R	FUEL METERING UNIT TEST STAND	1	.798				
6 DE 7 EL 0016 P R	5-AXIS MACHINING CENTER	1	.847				
6 DC 7 EL 0304 P R	LARGE VERTICAL GRINDER	1	.700				
6 DC 8 EL 0387 P R	DAATS TPS OFFLOAD			27	2.160	27	2.160
6 DE 8 EL 0241 P R	AUTO EDDY CURRENT SYSTEM UPGRADES (2)			2	1.015		
6 DC 8 EL 0360 P R	C-SCAN ULTRASONIC INSPECTION			1	.850		
6 DE 8 EL 0251 P R	CNC LASER PUNCH			1	.758		
6 DF 8 EL 0022 P R	MONARCH MILLING MACHINE REPLACEMENT			1	.525		
6 DC 9 EL 0400 P R	HYDRAULIC TEST STATIONS					1	2.400
6 DE 9 EL 0259 P R	VERTICLE TURNING CENTER					1	1.360
6 DE 9 EL 0263 P R	ULTRASONIC IMAGING SYSTEM (6)					6	.800
6 DF 9 EL 0004 P R	AUTOMATED WATER JET COATING REMOVAL SYSTEM					1	.750
6 DE 9 EL 0267 P R	TF34 MFC TEST STAND UPGRADE PROJECT					1	.703
6 DF 9 EL 0003 P R	HYDRAULICS SYSTEM REPLACEMENT					1	.700
6 DF 9 EL 0021 P R	K&T MODULINE 5-AXIS REBUILD					1	.500
	Productivity						
6 DF 8 EL 0009 P P	AUTOMATED PLASMA SPRAY SYSTEM UPGRADE			1	.500		
	New Mission						
DN EL 0000 N	CASS STATION EQUIPMENT		18.855		5.247		1.807
	Environmental Compliance						
6 DE 9 EL 0246 P E	FLASH JET PAINT STRIP					1	3.500
6 DF 9 EL 0004 P E	HVOF METAL SPRAY COATING SYSTEM					1	1.500
6 DF 9 EL 0008 P E	AUTOMATED PAINT COATING SYSTEM					1	.600
	SUBTOTAL EQUIPMENT, OTHER THAN ADPE & TELECOM (>$500K)		23.005		11.055		16.780
DN ES 0000	**1b. EQUIPMENT, OTHER THAN ADPE & TELECOM (<$500K)**		4.263		7.426		3.947
	2. GRAND TOTAL EQUIPMENT, OTHER THAN ADPE & TELECOM		27.268		18.481		20.727
DN MC 0000	**3. MINOR CONSTRUCTION**		1.929		4.410		6.018
	GRAND TOTAL NON-ADP CAPITAL PURCHASES PROGRAM		29.197		22.891		26.745

CAPITAL INVESTMENT SUMMARY
ADP PROGRAM-SUBMIT
DEPARTMENT OF THE NAVY
DEPOT MAINTENANCE - AVIATION DEPOTS
($ In Millions)

ITEM LINE #	ITEM DESCRIPTION	FY 1997 Qty	FY 1997 Actual Obligns	FY 1998 Qty	FY 1998 Total Cost	FY 1999 Qty	FY 1999 Total Cost
	1a. ADPE & TELECOMMUNICATIONS (>$500K)						
	Computer Hardware (Production)						
DN 7 KL 0000 G P	DEPOT MAINTENANCE SYSTEM (DMS)	3	13.022				
7 DE 7 KL 000J G P	CONFIGURATION MGMT INFO SYS (CMIS)			1	1.805		
6 DF 7 KL 0001 G R	LAN ENHANCEMENT	1	.800			1	1.000
6 DF 7 KL 0006 G R	NALCCOIS REPLACEMENTS	1	.644	1	1.300	1	1.000
7 DE 7 KL 4001 G P	ENGINEERING CAD/CAM SYSTEM PHASE II	1	.440				
3 DF 8 KL 0000 G R	JEDMICS			1	1.500		
6 DF 8 KL 0012 G R	E-MAIL SERVER SYSTEM REPLACEMENT			1	.500		
DN 8 KL 0000 G R	STANDARD PROCUREMENT SYSTEM (SPS) (2)			2	.032		
	SUBTOTAL ADPE & TELECOMMUNICATIONS (>$500K)		14.906		5.137		2.000
DN KS 0000	**1b. ADPE & TELECOMMUNICATIONS (<$500K)**		1.909		2.018		1.325
	2. GRAND TOTAL ADPE & TELECOMMUNICATIONS		16.815		7.155		3.325
	3a. SOFTWARE DEVELOPMENT (>$500K)						
DN 8 DL 0000 G P	DIFMS/NIMMS OSE REEINGINEERING			3	1.800	3	.927
DN 8 DL 0JT1 G P	DEPOT MAINTENANCE SYSTEM (DMS) - JLSC TRANSFER			3	8.000	3	12.700
DN 9 DL 0JT2 G P	CONFIGURATION MGMT INFO SYS (CMIS) - JLSC TRANSFER					3	5.100
	SUBTOTAL SOFTWARE DEVELOPMENT (>$500K)		0.000		9.800		18.727
DN DS 0000	**3b. SOFTWARE DEVELOPMENT (<$500K)**		0.000		0.016		0.008
	3. GRAND TOTAL SOFTWARE DEVELOPMENT		0.000		9.816		18.735
	GRAND TOTAL ADP CAPITAL PURCHASES PROGRAM		16.815		16.971		22.060

CAPITAL INVESTMENT SUMMARY
DEPARTMENT OF THE NAVY
DEPOT MAINTENANCE - AVIATION DEPOTS
($ In Millions)

	ITEM DESCRIPTION	FY 1997 Qty	FY 1997 Actual Oblighs	FY 1998 Qty	FY 1998 Total Cost	FY 1999 Qty	FY 1999 Total Cost
	GRAND TOTAL NON-ADP CAPITAL PURCHASES PROGRAM		29.197		22.891		26.745
	GRAND TOTAL ADP CAPITAL PURCHASES PROGRAM		16.815		16.971		22.060
	GRAND TOTAL CAPITAL PURCHASES PROGRAM		46.012		39.862		48.805

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. DAATS TPS OFFLOAD

6DC8EL0387PR

North Island

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0	27	80	2,160	27	80	2,160

OPERATIONAL DATE 1-Oct-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$1,464,000	$76,896	$1,540,896
AVERAGE ANNUAL SAVINGS (Discounted)	$899,565	$47,249	$946,814
PAYBACK PERIOD	3.7	NA	3.5
RATE OF RETURN (ROR)	21%	1%	22%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.
The purpose of this project is to Offload existing Digital Analog Automatic Test System (DAATS) Test Program Sets (TPS) to the Consolidated Automated Support System (CASS), Navy's newest Automatic Test Station. Offloading a TPS is done by developing a completely new and unique hardware and software interface between the test station and the item under test. This hardware and software interface is called a TPS.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY /PROBLEM? The Digital Analog Automatic Test System (DAATS) and the associated Test Program Sets support multiple avionics and electronic systems testing for both NAVAIR and NAVSEA requirements. The DAATS was installed and has been in operation since 1980. Over resent years DAATS has been difficult to maintain due to age and parts obsolescence issues. DAATS maintenance problems have caused major delays in the production of components for several weapons systems. The offload of TPSs will provide the necessary capability to test and repair components now supported by NADEP North Island. By offloading the TPSs, the existing workload requirements can be accomplished for an additional 15 years. This project will be accomplished over two years utilizing in-house labor.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
DO NOTHING - Eventual loss of capability within three to four years due to total mechanical/electrical failure of the DAATS.
REPLACE THE DAATS - Estimated cost would be $3,000,000 for the replacement test station plus an additional $4,320,000 for new TPSs to be used on the new test station. Existing DAATS TPSs will not be compatible with any new test station.
OFFLOAD EXISTING TPSs TO CASS - CASS stations are now available at North Island and have the capacity to accept the additional workload. This is the most cost effective option.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes. Code 93503 has been involved in this project from the beginning.

5. IMPACT IF NOT ACQUIRED. If the replacement of the DAATS or the Offload of TPSs to CASS is not accomplished, workload delays will continue to increase until total failure of DAATS with three years. NADEP North Island is the only test and repai facility for the workload tested on the DAATS.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. AUTO. EDDY CURRENT SYSTEM UPGRADES (2)

6DE8EL0241PR

Jacksonville

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0	2	507.5	1,015			0

OPERATIONAL DATE	1-Oct-98		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$295,666	$10,000	$305,666
AVERAGE ANNUAL SAVINGS (Discounted)	$181,674	$6,145	$187,819
PAYBACK PERIOD	4.4	NA	4.2
RATE OF RETURN (ROR)	18%	1%	19%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The new Automated Eddy Current Systems will be state-of-the-art inspection systems capable of performing any of the required engine inspections related to TF34, F404 and F1D2 Engine programs. Systems will also be capable of eddy current inspecting other related engine and aircraft program parts currently at this command.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? Existing Eddy Current Systems are outdated and not capable of performing specialized eddy current inspections for TF34, F404 and F1D2 Engine parts. The new Automated Eddy Current Systems will be state-of-the-art inspection systems capable of performing any of the required engine inspections related to TF34, F404 and F1D2 Engine programs. Systems will al be capable of eddy current inspecting other related engine and aircraft program parts currently at this command.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? No other alternatives are available since these inspection systems are specifically required for the above engine programs.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Completely (this involves production and other technical support groups involved with the Non Destructive Inspection (NDI) shop).

5. IMPACT IF NOT ACQUIRED. If not procured, eddy current inspection requirements for the TF34 and F404 engine programs will be significantly impacted by equipment downtime and for some parts, no capability to meet the inspection requirement.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A.

CAPITAL PURCHASES JUSTIFICATION
(Dollars In Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. C-SCAN ULTRASONIC INSPECTION 6DC8EL0360PR

North Island

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0	1	850	850			0

OPERATIONAL DATE 15-Sep-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$411,725	$32,743	$444,468
AVERAGE ANNUAL SAVINGS (Discounted)	$252,987	$20,119	$273,106
PAYBACK PERIOD	2.4	NA	2.2
RATE OF RETURN (ROR)	29.8%	2.4%	32.1%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The C-Scan system is an ultrasonic inspection system that uses sound waves to inspect aircraft surfaces for voids and corrosion. The C-Scan systems ultrasonic read heads use water as a sound enhancing medium when inspecting aircraft surfaces. The results of the Scan are used to produce a color coded density representation on a computer monitor which can be printed on a color printer. The C-Scan system uses automated manipulation of two ultrasonic transducers to transmit ultrasound pulses through the component being inspected. Te aircraft surfaces are placed between the transducers. One transducer transmits the ultrasound pulses and the other receives them. The attenuation of the sound pulse as it travels through the component reveals delaminations, disbonds and other internal damage. A rastor pattem is used to produce an attenuation map of the part called a "C-scan". The C-Scan information is stored in computer memory and is displayed on a monitor with colors representing different amounts of attenuation. The C-Scan print out can go with the part and is used in determining reparability of the part and designing a repair. The C-Scan data is archived on optical disc for future reference. This project is for the replacement of C-Scan system located in building 250. The current system is old technology and difficult to maintain.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The Non Destructive Inspection (NDI) examination of F-18 , F-14 and other A/C surfaces to determine the depth of repair required is performed on the C-Scan system located in Shop 97405, building 250. This inspection is an ultrasonic inspection for voids and corrosion that can impact the integrity of the surface. These surfaces are considered to be part of the component program. The C-Scan system is technologically obsolete and maintenance is increasing at a geometric rate. Maintenance parts and services are becoming increasing difficult to locate. New parts are non existent and we are being forced to rely on sources that stock used parts. NADEP has completed a project to repair one of the two C-Scan units. This repair will ensure that one of the two units will have an operational life through 1998.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? Do Nothing. If the current system is not replaced the NADEP will be unable to continue in the business of composite component repair and manufacture. Loss of this capability would leave us unable to provide adequate depot support for the either F/A-18C/D or the new F/A-18E/F.

Contracting out is not feasible as the closest alternate source for this type of inspection is Northrop-Grumman Corp. in Hawthorn, CA. Turn-around-time would increase by 250 percent whild basic contracting costs would be $275,000 per year.

Acquire New Item. Acquiring new systems is the only viable alternative.

Refurbishment with new motion control and ultrasonic and data acquisition subsystems was considered but found not desirable for two reasons.

Rebuild exixting item. There is no company with the capability to create this type of system that is interested in taking a 15 year old frame and bridge, and building an effectively new system around them. The existing frame and bridge are too small to inspect the horizontal stabilizers from the new F/A-18E/F.

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4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes, the NADEP material lab has been and will continue to be heavily involved in initial planning and in developing the procurement specification. The production and maintenance shop supervisors and key personnel have been consulted and will continue to be consulted throughout the life of the project. The Components Program Managers Office (PMTO) Code 930 is also committed to the replacement and in continuing the capability that the C-Scan represents

5. IMPACT IF NOT ACQUIRED. If the current C-Scan system is not replaced the NADEP will be unable to continue in the business of composite component repair and manufacture. Loss of this capability would leave us unable to provide adequate dep support for the either F/A-18C/D or the new F/A-18E/F.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. CNC LASER PUNCH | Jacksonville

6DE8EL0251PR

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	758	758			0

OPERATIONAL DATE 1-Oct-98

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$213,638	$0	$213,638
AVERAGE ANNUAL SAVINGS (Discounted)	$131,271	$0	$131,271
PAYBACK PERIOD	4.6	#DIV/0!	4.6
RATE OF RETURN (ROR)	17%	0%	17%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The item is a 2000 watt Computerized Numerical Control (CNC) Laser Punch. This will enable the NADEP to program the shapes into the computer eliminating the need for the antiquate template and scribe method. The CNC controls the laser cutting head along two axes above a stationary workpiece. This allows system set-up times to be reduced, while maximizing system dynamics, regardless of workpiece type. A large portion of time in the sheet metal manufacturing operations in shop 6.2.3.321 is spent shearing sheets to rough size, scribing patterns, sawing to rough shape, and sanding to final size to create sheet metal flats. These manual operations occur before a flat is bent to final shape, and they are very labor intensive. In order to modernize the sheet metal fabrication operations, funding for the CNC Laser Punch is being requested. The CNC Laser Punch will not only manufacture flat parts more quickly, it will produce parts with more consistent dimensions (i.e. improved quality). Repeatable parts are critical for downstream manufacturing operations such as bending and forming. In addition, projected future workload will only exacerbate the need for CNC Laser Punch capability. The Punch and the Laser are really two separate processes combined on one machine to allow for optimum processing. Often parts consist of both complex contours as well as standard holes and cutouts. The Laser Punch combination enables the most suitable processing method for these types of parts, which are numerous within the 6.2.3.321 sheetmetal manufacturing shop environment.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The current process of using a template, scribe and saw to cut metal is labor intensive and generally produces a reduced quality of product. The programmable CNC laser eliminates the need for templates and significantly reduces the labor hours required.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? (a) Purchase and install new CNC Laser in the sheetmetal manufacturing shop. (b) Continue as is currently set up with the tedious scribe, saw, shear etc. process manually.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes, many personnel of various disciplines have contributed to this evaluation including shop labor, shop management, production planning, and process engineering. All agree with the proposed solution.

5. IMPACT IF NOT ACQUIRED. Not only will parts continue to be processed in a slow labor intensive manner; the ability to accept new or increased workload in the future may be jeopardized.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars In Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. MONARCH MILLING MACHINE REPLACEMENT 6DF8EL0022PR

Cherry Point

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	525	525			0

OPERATIONAL DATE 1-Jun-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$98,997	$49,910	$148,907
AVERAGE ANNUAL SAVINGS (Discounted)	$60,829	$30,668	$91,497
PAYBACK PERIOD	7.9	NA	4.6
RATE OF RETURN (ROR)	12%	6%	17%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

A Monarch milling machine, model VMC-200, EIN 65923-002001, is currently in operation in the Numerical Control (NC) Machine Manufacturing Shop, shop 93666. The VMC-200 was installed in 1977 and is about 20 years old. This project proposes replace the existing Monarch VMC-200 milling machine with a new Monarch VMC-200 milling machine, or equivalent.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/ PROBLEM?

The existing controller can no longer be maintained due to the age of its components and the fact that the manufacturer can no longer support the present configuration. Our electronic control maintenance personnel are having an increasingly difficult time keeping the control system operational. Factory service personnel have to be called in routinely to troubleshoot systems to fix mill when our maintenance personnel can not detect the problems. Mechanical condition of the milling machine is not in as critical shape as the electronic control side of the machine, but ways are worn and unit shows twenty years of use. By the time the replacement milling machine is procured, the existing VMC-200 will be approximately 22-23 years old, at least 7 years past it's useful life.

The VMC-200 is the only milling machine at the depot that is capable of milling components in the X-axis over 100" long. Thus, some of the existing workload can only be machined on the subject equipment.

A new milling machine will eliminate the antiquated controller problems associated with the older mill by being equipped with a state of the art controller that will be more powerful, possess more memory, be more user-friendly, and be operator programmable with Distributed Numerical Control System (DNCS) link to NC programming department. The mill will be equipped with state of the art mechanical & electrical systems that have improved accuracies, repeatabilities, and feed rates over predecessor mills.

The purpose of this project is to reduce large mill downtime due to present controller configuration, thus reducing maintenance costs, contractor services cost, and operator costs.

Also, it is assumed that the configuration of the new controller system will reduce programming costs by being equipped with operator programmable control systems. Increased workload from recently acquired Air Force and Navy contracts (Example: Helicopter manufacturing support for H1, H2, H3, H53, and H60) will make this project even more beneficial to the depot than originally expected.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

The following alternatives have been considered;

1. Status Quo - Continue to use existing mill until controller can no longer be supported by maintenance or contractor.
2. Rebuild Existing Milling Machine.
3. Relocate Another Milling Machine from a closing depot to replace existing mill.
4. Replace Existing Milling Machine with a new mill.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?

The customer has been involved in all phases of defining the problem and proposing a solution. Personnel from the Manufacturing Program Management Team, NC Shop, & Programming have taken part in this decision and will continue to be involved through the implementation.

5. IMPACT IF NOT ACQUIRED.

Continued high direct and indirect man-hours due to condition of the equipment and extended turn-around-time.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. HYDRAULIC TEST STATIONS

6DC9EL0400PR

North Island

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	2,400	2,400

OPERATIONAL DATE 15-Oct-01

METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$760,725	$95,713	$856,438
AVERAGE ANNUAL SAVINGS (Discounted)	$467,433	$58,811	$526,244
PAYBACK PERIOD	4.0	NA	3.5
RATE OF RETURN (ROR)	19%	2%	22%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The Hydraulic Test Stations will be used to perform off aircraft testing on various Hydraulic and Electrohydraulic aircraft servoactuators. The Test Stations will have the capacity to operate manually or automated with a data acquisition and storage system. The Test Stations will be manufactured with a remote power supply and modular carts for containing and testing individual servoactuators. Setup and operating/processing time will be saved.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? Existing Test Stations have exceeded their useful life by 20 percent. Corrective maintenance costs and Test Station dowi time for maintenance has increased over the last few years by 30 percent. The Test Stations being considered for replacement have many non-replaceable components causing delays in maintenance cycles and increasing down time.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
CONTRACT OUT - The establishment of a contracted source to perform complete retrofit/repair of Hydraulic and Electrohydraulic Aircraft components will be required. Normal turn around time for performance of routine off aircraft check, test and rework processes will increase by days and weeks.

REBUILD - Complete retrofitting and extensive configuration modifications of existing Hydraulic Test Stations have been considered. Replacing non-repairable out dated Test Station components with similar configured state-of-the-art components will require extensive research by the design engineering branch. It is cost prohibitive.

REPLACE EXISTING TEST STANDS - Replacing the existing stands with state of the art test stations will give us capability for current workload plus future workloads the current stands can not support.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes. Code 93303 has been involved with this project from the beginning.

5. IMPACT IF NOT ACQUIRED. Hydraulic and Electrohydraulic test functions require additional time to assure compliance with component test specifications. Existing Test Stations are not capable of safely operating for extended time frames at flow ar pressure rates specified/required when procured. Test Station failures cause schedule delays for components being tested or repaired for in-house Aircraft or for Fleet readiness requirements. Future workloads will require capabilities not available with tl current test stations.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. VERTICAL TURNING CENTER 6DE9EL0259PR

Jacksonville

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0			0	1	1,360	1,360

OPERATIONAL DATE 1-May-00

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$252,783	$14,580	$267,363
AVERAGE ANNUAL SAVINGS (Discounted)	$155,324	$8,959	$164,283
PAYBACK PERIOD	8.1	NA	7.5
RATE OF RETURN (ROR)	11%	1%	12%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.
Procure a new Vertical Turning Center. The new machine will have state of the art electronics and be factory supported for approximately ten years. Also, new table bearings and machine ways will guaranty the accuracies required for aircraft components.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?
The existing Computer Numerical Control (CNC) Lathe 65887-603965 is experiencing maintenance problems due to its age. The lathe was manufactured in 1972 as a manual lathe, and then converted to CNC in 1987 using various manufacturer's components. Current problems are mostly electronic in nature (drive boards, servo motor) and replacement parts are becoming increasingly harder to obtain. Other problems are excessive wear on the table bearings. A machine of this age is basically insupportable. Workload for this CNC lathe is the TF34 and F404 engine programs.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
a. Assume replacement with new CNC lathe - Turning Center.
b. Perform work on two similar CNC lathes.
c. Contract out the workload to a shop that has been certified for "Flight Critical" component repair/manufacture.
d. Acquire a maintenance plan with a vendor who can rebuild circuit boards and perform mechanical repairs.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?
The shop foreman has been involved with us in identifying these problems and will work with us on the replacement specification. The TF34 and F404 Engine Program Managers both agree that the turning and boring of engine components is one of t key bottle necks within the plant which impedes completion of engine and engine component schedules.

5. IMPACT IF NOT ACQUIRED.
1. If the option to utilize the two similar CNC lathes is chosen, the transferred workload will have to compete with the workload assigned to that machine. Also, the age and condition of the similar CNC lathes will add risk to meeting the engine schedu Current workload on those machines are TF34 and F404 Combustion Liners. A significant amount of workload is Air Force contract work that has mandatory completion dates. This also leaves no surge factor nor time to perform preventive or corrective maintenance.

2. If the contract out option is chosen, then the increase in turn-around-time must be relayed back to the fleet, if engines are awaiting parts. Also, it is doubtful that Cognizant Field Activity (CFA) Engineering will allow "Flight Critical" components to l repaired at a non-certified builder of aircraft components, thereby reducing the number of vendors available to produce the workload.

3. A maintenance contract would be required to rebuild and repair the obsolete circuit boards. A five day turn-around time would be required to trouble shoot, analyze, repair and make operational the machine in order to meet engine schedule. A contract of this magnitude would be on-going year after year, and have an estimated cost of $150,000 per year. The mechanical repairs would require an additional maintenance contract with a source who could build bearings and fabricate the components that are no longer available due to age of the machine. This contract would be estimated to cost $70,000 per year.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. Ultrasonic Imaging System (6)

6DE9EL0263PR

Jacksonville

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0			0	6	133.3	800

OPERATIONAL DATE 31-Mar-00

METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$360,000	$0	$360,000
AVERAGE ANNUAL SAVINGS (Discounted)	$221,204	$0	$221,204
PAYBACK PERIOD	2.6	#DIV/0!	2.6
RATE OF RETURN (ROR)	28%	0%	28%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT:
It is proposed that Ultra Image III (UI III) Ultrasonic Imaging Systems be replaced by Ultra Image IV (UI IV) Ultrasonic Imaging Systems. According to the manufacturer, the Ultra Image III is essentially non-repairable due to it's age and obsolete due to the development of new technologies (UI IV). Furthermore, the present inventory is breaking down and will inevitably become non-operational. A number of procedures call for ultrasonic imaging, thus replacement ultrasonic imagers are required. There is need for 6 Ultra Image IV instruments.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?
The current deficiency is the threat of a work stop situation when (not if) the present Ultra Image III inventory breaks down. The Ultra Image IV is ergonomically upgraded, reduces inspection time, improves inspection quality and it is technologically super to the Ultra Image III. The Ultra Image IV is computer based, smaller and faster than the Ultra Image III. This portability will offer ultrasonic imaging possibilities where none existed before. Furthermore, the upgraded systems have features which may be taken advantage of to improve and replace present inspections elsewhere. For instance, eddy current imaging is a feature not available before. This capability is integral to the Ultra Image IV and will offer new and improved procedures.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
An alternative is manual ultrasonic point-by-point measurement. This is a cost ineffective and time consuming operation. It is also extremely dependable on the operator for data processing and record-keeping.

The other alternative will be to contract the service to perform c-scan inspections on the aircraft or renting the equipment to do it.

Some existing Ultra Image III ultrasonic imaging systems are broken beyond repair conditions. Phase purchases are acceptable if the timeframe of the procurement process is equal or better than FY 99 CPP.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?
The customer has been involved in the solution and agree. The EA-6B program has the requirements (other programs will benefit).

5. IMPACT IF NOT ACQUIRED.
The impact if not procured will be enormous. Without ultrasonic imaging systems (when the current inventory breaks down), point-by-point inspections will be mandated. To inspect one wing might take weeks to finish and with reduced confidence in ensuring full coverage. Furthermore, there will be no data record. Requirements will not be met.

Imaging technologies are the future. It is the present. There is no better nondestructive inspection data than an image for correct evaluation of material condition. The proposed system(s) meets the needs of NADEP JAX at minimum cost and provides a window to new inspection opportunities as an added benefit.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. AUTOMATED WATER JET COATING REMOVAL SYSTEM

6DF9EL0004PR

Cherry Point

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0			0	1	750	750

OPERATIONAL DATE 1-Jun-00

METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$639,761	$0	$639,761
AVERAGE ANNUAL SAVINGS (Discounted)	$393,105	$0	$393,105
PAYBACK PERIOD	1.3	#DIV/0!	1.3
RATE OF RETURN (ROR)	52%	0%	52%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. This project proposes to procure an automated water jet coating removal system to remove metal spray and other coatings from jet engine components. The proposed system will reduce labor application and turnaround times for the subject process. It is a completely self-contained automated system that is equipped with a roof mounted robot.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

Currently, various parts and engine components require that coatings be removed before additional coatings can be applied. Coating removal is a key step in the process of refurbishing many turbine engine parts. Different coatings serve different purposes. For example, ceramic coatings provide a thermal barrier for burner cans. Metallic coatings are often used to restore worn areas. When an aircraft engine is disassembled for inspection and overhaul, these coatings must be stripped to the parent metal and re-applied before the parts are reinstalled. Traditional methods of removal tend to be slow, can generate hazardous waste, can be expensive, and damage to the parts is always a possibility.

Until recently, coating removals normally use chemical, grit blasting, and machining processes. For instance, at a private airline removing 0.015 inch magnesium-zirconate ceramic coating from burner cans required a 24 hour soak in nitrobenzene sulfonate stripping acid, hand brushing, and aluminium oxide grit blasting. Another case, plasma sprayed metallic coatings are generally removed from stainless steel diffuser cases by a machining process that can take up to eight hours. There is presently a requirement to reduce chromium exposure levels in our existing chrome plating facility by converting the process from a plating tank process to a plasma spray coating process. With the acceptance of this coating substitute, the requirement fo better coating removal technologies is evident. The new water jet coating removal process will also as a bonus reduce toxic soaking chemicals that can be hazardous to use and have expensive disposal costs. This project proposes to install an automated water jet coating removal cell to greatly reduce the labor, turnaround time, and scrap rates presently associated with coating removals. The system consists of a totally enclosed work enclosure that is equipped with a turntable mounted on the workdoor for ease of part loading. The cell is equipped with programmable controls to monitor and control the movements of the overhead gantry robot and the actual water jet coating removal process parameters. The heart of the workcell is th intensifier pump that pressurizes water up to 55,000 psi and forces it through multiple sapphire orifices as small as 0.003 in. in diameter. The orifices are mounted in specially designed rotating nozzles that are installed on the gantry robotic arm.

The purpose of this project is to reduce labor application, turnaround time, and scrap rates associated with coating removals for aircraft and aircraft engine components. It will allow this facility to be more competitive while greatly reducing the use of coating removal processes that are less environmentally sound. Also, it is assumed that the proposed system will be of increasingly greater benefit in the future as more and more parts convert to metal spray coating processes, whether they be plasma spray, thermal spray, or hard face coated spray. Continuous lowering of chromium exposure limits and increased workload from recently acquired Air Force and Navy contracts (Examples: helicopter manufacturing support for H1, H2, H3, H53, H60) will make this project even more beneficial.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? he following alternatives have been considered;

1. Status Quo - Continue to process coating removals as traditionally performed using chemical stripping, machining and blasting processes.
2. Procure an Automated Water Jet Coating Removal System for the purpose of improving the coating removal process.

Alternative # 1 was not chosen. Business as usual will not result in any substantial process savings. Also, as work load requirements shift to the new metal spray processes, traditional coating removal may no longer be feasible or legal for use.

Alternative # 2 was chosen. The depot has been monitoring the success of this new process, awaiting successful implementation in a variety of applications, especially in aircraft rework. Commercial vendors have successfully implemented this proce at numerous private and Government facilities with tremendous savings. Therefore, the process is no longer a sole source requirement and has experienced considerable success to date. With the expected and looming reductions in chromium exposure limits, this facility feels that the time has come to seriously pursue this technology.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? The customer has been totally involved in all phases of defining the problems and proposing a solution. Personel from the Blade Vane Facility (M. Bastyr), Materials Engineering (J. Grant & R. Kestler), and Clean, Blast, and Plate Shop (W. Jones) have taken part in this decision and will continue to be involved through implementation.

5. IMPACT IF NOT ACQUIRED. The impact would be great at the time when chromium exposure levels are reduced and the facility loses its ability to remove coatings through the use of chemicals. At this point in time, the date of these subject changes has not been determined.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. TF 34 MFC Test Stand Upgrade Project

6DE9EL0267PR

Jacksonville

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	703	703

OPERATIONAL DATE 1-Oct-00

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$293,907	$0	$293,907
AVERAGE ANNUAL SAVINGS (Discounted)	$180,593	$0	$180,593
PAYBACK PERIOD	2.9	#DIV/0!	2.9
RATE OF RETURN (ROR)	26%	0%	26%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT: The four TF 34 Fuel Control Test Stands are large pieces of industrial equipment dedicated to testing the fuel control (similar to a car's carburetor) of a TF 34 jet engine. The TF 34 jet engine is used in the A10 Warthog and other aircraft. Using motors, pumps, valves and high pressure hoses, an operational environment is simulated for the fuel control to be fully tested before it is placed on an overhauled TF 34 jet engine and declared ready for issue (RFI). About 30 factory tests are run on each fuel control under the automatic control of a Digital Equipment Corporation (DEC) Micro Vax II computer and an Interdata model 70 computer. The test programs were written in Assembly in 1973 and FORTRAN in 1984 and they only run on their own computers. When the computer hardware is no longer supportable, the software is in jeopardy of losing it's host platform and must be rewritten for the upgraded replacement computer.

This project's purpose is to replace aging computer hardware in four TF34 Fuel Control test stands in bldg. 795. One test program will be written for all four test stands using the same type of upgraded computer hardware. These test stands are assigned plant account numbers 196121, 196120, 222697 and 222698. Two of the old computers are Micro Vax IIs of 1985 vintage and two are Interdata model 70s of 1973 vintage.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The problem is that Digital Equipment Corp (DEC) stopped supporting the Micro Vax II computers when contacted in 1994 and Interdata is out of business and no longer supports the model 70s. This old hardware is no longer supportable and we are in jeopardy of losing our capability to overhaul these fuel controls. We propose upgrading the computers to state-of-the-art PC based machines using the Windows NT operating system and LabView graphical programming language. These items are capable high-tech substitutes to our current systems. This will be the last time we will have to rewrite the software because the LabView software language is open architecture and is not "wedded" to any specific computer hardware or even operating system and will be fully transportable to any PC computer hardware upgrade in the future, unlike our current test software.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? The only source of overhauled TF34 Fuel Controls is the manufacturer, Woodward Governor Corp. At an annual cost of $1,297,440 (assuming 106 units/yr - NADEP 1996 production costs), we can allow our capability to erode by not upgrading our aging computers and lose our capability and eventually have to buy them from Woodward Governor Corp. We're currently paying $1,003,533 for this level of production and doing the work ourselves at NADEP. The cost/benefit analysis is based upon 1996 labor/material costs be NADEP to produce these fuel controls. If we lose our capability, we will have to have the manufacturer overhaul them at a higher price. There is no other alternative if DOD wants 106 overhauled TF 34 fuel controls per year.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? The customer, NADEP Engines Branch Production Dept fully concurs and wants these computers upgraded and our capability ensured.

5. IMPACT IF NOT ACQUIRED. The Test Stands will go down for computer repair problems and stay there for lack of spare parts. We currently cannot get some spare circuit boards for our computers and are vulnerable to a work stoppage if our current boards break. Oftentimes components on these boards are one of a kind specialty items and are also obsolete. We cannot depend on a supply of circuit board components (assuming correct diagnostics) much less depend on spare circuit boards. The fuel control is a vital part on the TF 34 engine line (much as a carburetor is to a car's engine) and a disruption in the production of fuel controls would halt the production of TF 34 engines. The TF 34 Jet Engine Program represents a major part of NADEP engine production.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. HYDRAULICS SYSTEM REPLACEMENT — 6DF9EL0003PR — Cherry Point

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	700	700

OPERATIONAL DATE	1-Mar-00		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$99,164	$0	$99,164
AVERAGE ANNUAL SAVINGS (Discounted)	$60,932	$0	$60,932
PAYBACK PERIOD	12.8	#DIV/0!	12.8
RATE OF RETURN (ROR)	9%	0%	9%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

The new central hydraulic system will consist of four separate stations (with an option to add two additional) connected to a central pumping system. The individual station will be able to service two bays/aircraft each, this will service approximately half of hangar #1 in building 137. The new central hydraulic system will be able to service every type of aircraft the depot currently maintains and also the new V22 aircraft.

The present situation is that an obsolete system that was abandoned years ago, uses portable units that require significant labor to move, set up, purge, and connect. Continued use of the portable units has safety concerns, delays work, and has high direct labor cost. The recommended solution is to procure the new central hydraulic system for the depot. The new hydraulic system will improve production time on the aircraft, turn-around-time of the aircraft, and reduce hazardous oil spills.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/ PROBLEM?

The central hydraulic system currently located in building 137 is approximately 30+ years old. The system was taken out of service due to various problems, noise level above safety requirements, leaky pumps, old outdated controls, piping problems, and unable to maintain proper hydraulic pressure for the aircraft. This project is to replace the system which was removed approximately one year ago. When the system is replaced the hydraulic fluid tank reservoir and pumps will be placed in a room separate from the hangar to eliminate possible high noise levels. Hydraulic service is currently being provided to the aircraft by using small hydraulic servicing carts that must be carried to the aircraft by ground support personnel. This is a very time consuming process and on average takes 2 hours for the unit to be delivered from the time the call is placed. This long delay not only causes problems with checking and testing the hydraulics of the aircraft but also other work being performed by other artisans. These portable units use valuable space around the already crowded work area of the aircraft, causing trip hazards and possible electrical problems.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

ALTERNATIVE #1: Status quo
ALTERNATIVE #2: A search was conducted on closing facilities for more up-to-date equipment has been performed with no satisfactory results
ALTERNATIVE #3: Procure a new central hydraulic system for the depot.

4. AS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?
Yes, Howard Germroth, Division Director of the Airframes Division (Code 6.2.950) has been involved since the beginning of this process and is completely supportive of this project.

5. IMPACT IF NOT FUNDED: See Para 2.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. K&T MODULINE 5-AXIS REBUILD 6DF9EL0021PR

Cherry Point

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0			0	1	500	500

OPERATIONAL DATE	1-Jun-00		
METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$110,827	$23,282	$134,109
AVERAGE ANNUAL SAVINGS (Discounted)	$68,098	$14,306	$82,404
PAYBACK PERIOD	6.3	NA	4.9
RATE OF RETURN (ROR)	14%	3%	16%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

A K & T Moduline 5-Axis machining center, model 80, EIN 65923-002714, is currently in operation in the Numerical Control (NC) Machine Manufacturing Shop, shop 93666. The K & T Moduline was installed new in 1981 and is approximately 15 years old.

This project proposes to rebuild the existing K & T Moduline 5 Axis Machining Center and replace its existing controller with a new state-of-the-art controller. Rebuilding the machining center will include but not be limited to; possible regrinding of bed ways, regrinding and/or scraping of column ways and cross slides, replacement of roller packs, replacement of bearings, seals, bushings, rebuild of lubrication system, coolant pump and motor, tool changer, and spindle head, rewire the machine, ar replacement of the existing NC Control, servo motors and drives and spindle controller. Software interfacing capabilities will be provided so that the existing hardwired electrical system may be incorporated into the software of the control.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/ PROBLEM?

The existing controller has begun to give maintenance problems and will become increasingly difficult to maintain due to the age of its components and the fact that the manufacturer can no longer support the present configuration. Our electronic control maintenance personnel are having an increasingly difficult time keeping the control system operational. Factory service personnel have to be called in routinely to troubleshoot systems to return the machining center to operational status when our maintenance personnel can not detect the problems. Mechanical condition of the milling machine is not in as critical shape as the electronic control side of the machine, but ways are worn and unit shows fifteen years of use. By the time the replacement machining center is procured, the existing K & T Moduline will be approximately 19-20 years old, at least 4-5 years past its useful life.

Mechanical condition of other areas of the machining center are relatively good, requiring only minor adjustments and replacements of parts. Due to the cost of a new machine and the overall condition of the mechanical portion of the unit, it makes go economic sense to attempt a control retrofit and mechanical upgrade to the present system.

The K & T Moduline is the only 5 axis machining center at the depot that is capable of multi-axis machining with an envelope of 72" of x-axis travel, 60" of y-axis travel, 30" of z axis travel and 24" of z' axis travel. Thus, some of the existing workload can only be machined on this equipment. There are presently approximately 50 jobs that have to be programmed on the Moduline machine due to its capacity.

The purpose of this project is to reduce large machining center downtime due to present controller configuration, thus reducing maintenance costs, contractor services cost, and application of operator labor. The proposed project will extend the service life of the existing equipment another 15 years at approximately 45% of the cost of a new machining center with the same capacity.

Also, it is assumed that the configuration of the new controller system will reduce programming costs by being equipped with operator programmable control systems. Increased workload from recently acquired Air Force and Navy contracts (Examples Helicopter manufacturing support for H1, H2, H3, H53, and H60) will make this project even more beneficial to the depot than originally expected.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

The following alternatives have been considered;

1. Status Quo - Continue to use existing machining center until controller can no longer be supported by maintenance or contractor and machine goes out of service.
2. Rebuild Existing Machining Center.
3. Relocate Another Machining Center from a closing depot to replace existing unit.
4. Replace Existing Machining Center with a New Machining Center.

Alternative # 1 was not chosen for a variety of reasons. The existing machining center is requiring ever increasing maintenance and operator nurturing to produce quality parts. The accuracies of the machining center have begun to deteriorate and require constant operator intervention to ensure proper machining. These efforts require more time to be expended unnecessarily on the machining of the components, thus exceeding norms on many parts. However, status quo will result in the machining center going hard down with no way to bring it back up. The loss of this machining center's unique machining capability will eliminate this depot's capability to manufacture large, complex, components. The loss of this capability would hinder the ability of this depot to support the Helicopter manufacturing program, past, present, and future workload.

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Depot Maintenance/Aviation Depot	C. K&T MODULINE 5-AXIS REBUILD 6DF9EL0021PR	Cherry Point

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

Alternative # 2 was given considerable consideration. It was chosen for the following reasons. This depot just recently successfully completed its first NC machine tool rebuild and retrofit at 40-50% of the price of a new machine. We should replicate this success. On this project, the cost of a replacement machining center is approximately $1.5 M, while estimates for rebuild and retrofit are $500K, a substantial savings. Another reason for this alternative selection was that the operators prefer the operation of the system over other machining centers and the overall mechanical condition of the unit was relatively good. Thus, this option fulfills this facility's requirements at a reduced capital investment.

Alternative # 3 was our initial choice. Relocating an existing machine from a closing depot would save the expense of a new machining center or rebuilding the existing unit. This depot's manufacturing transition team investigated the manufacturing capabilities of the closing depots visiting Pensacola and Norfolk and reviewing equipment listings from Alameda. We found:

* Pensacola Fl - used Sunstrand Omni Mills and a Monarch VMC-150 for manufacturing large components. Their equipment was built in 1976, 1980, and 1981respectively and was experiencing similar problems to our existing equipment. The Omni-mills also used a larger area than the existing Moduline and the VMC-150. We decided to not relocate these items.
* Norfolk Va - had just installed within the last 1.5 years a large manufacturing cell of 5 Toyoda 5 Axis machining centers equipped with a large tool storage magazine that automatically loaded tools to each machining center. The cell was too large to fit into our floor space and was a complete system. Relocation of any part of the system would result in us having to transfer the remaining cell depreciation. The unit cost ($7,214,457.00) would result in an annual depreciation charge of $481,000.00 a year for the next twelve years for equipment we would not use or need. We decided to not relocate these items.
* Alameda Ca - the manufacturing transition team did not find any large five axis machining centers that would fulfil our requirements with respect to the K&T Moduline. Therefore, this option was not acceptable.

requirements with respect to the K&T Moduline. Therefore, this option was not acceptable.

Since our search for a transition candidate was unsuccessful, alternative #3 was abandoned.

Alternative # 4 was considered, but it seemed foolish to scrap a good solid machine because the control system is inadequate and risk the chance of procuring a machine that is an inferior quality machine with a $1.5M+ price tag. Due to the tremendo value remaining in the existing machine, retrofitting it is the better alternative.

Alternative # 2 is chosen because alternative # 3 was unsuccessful, alternative # 1 is unacceptable for future support of our customers, and alternative # 4 is not the most cost effective alternative. The rebuilt machining center will be equipped with sta of the art control systems, electrical drives and diagnostic systems, and mechanical systems that will improve the overall performance of this facility to meet its large machining requirements.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?

The customer has been totally involved in all phases of defining the problem and proposing a solution. Personnel from the Machine, Manufacture, and Component Repair Branch, (C. W. Smith, L. Maddrey, and B. Hermance), Manufacturing Planning, (C. Turner), and Production Plant Engineering, (J. Whitehurst, M. Merrell, & E. Delmastro) have taken part in this decision and will continue to be involved through implementation.

5. IMPACT IF NOT ACQUIRED.

Continued maintenance costs, contractor services costs, and operator costs associated with use of equipment that needs rebuilding in order to reduce/eliminate these costs.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. Automated Plasma Spray System Upgrade — 6DF8EL0009PP — Cherry Point

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	500	500			0

OPERATIONAL DATE 1-Jun-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$1,046	$372,000	$373,046
AVERAGE ANNUAL SAVINGS (Discounted)	$643	$228,578	$229,221
PAYBACK PERIOD	NA	1.5	1.5
RATE OF RETURN (ROR)	0%	46%	46%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The project will upgrade the robotic plasma spray system that was relocated from the Naval Aviation Depot, Norfolk to the Naval Engine Airfoil Center. Upon completion, the robotic system will be functionally capable of applying thermal barrier coating on F402 second stage high pressure turbine vanes.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/ PROBLEM? The upgrade of the equipment will consist of the following four main areas:

a. Robot repairs / upgrades : This would include the seals, wear surfaces, etc. of the robot to bring it up to like new tolerances and repeatability. It will also include changes to bring the system up to current Robotics International Association (RIA) standards (i.e. vertical axis lock, live-man switch on jog pendant, safety switches, safety circuitry, etc.).

b. Refurbish plasma spray equipment: This will include refurbish and calibration of powder feeder, power supply, High frequency guns and hoses, cooling unit, etc.

c. Refurbish other cell equipment: This will include inspection and refurbishment of turntable, CNC controls, rotoclone and blower unit, enclosure tightness, etc.

d. CPU upgrade / software upgrade: This will include upgrading the existing 286 based IBM Gear Box processor running outdated versions of Factory Link control software to a generic 586 based processor running their current control software.

The purpose of the project is to reduce applied direct labor and turn-around-time associated with F402 second stage high pressure turbine blades. This will be accomplished by improving operational time through refurbishment of the equipment, reducing direct labor by upgrading to current standards, and reducing out of service time due to obsolescence.

Also, although it is not reflected in the payback of this project, thermal spray methods such as plasma spray are being reviewed as a replacement for chrome plating in certain applications. This is becoming a high priority because of more restrictive chemical discharge limits being levied by Environmental Protection Regulations in the plating fields. The maintaining of our equipment in top condition to the latest configurations will allow us to remain competitive in these areas as they develop.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

ALTERNATIVE #1

Status Quo was not chosen for a variety of reasons. Past experience with contracting out the application of thermal barrier coating of the F402 second stage high pressure turbine vanes have been less than desirable. The contracting out turnaround time, intermittent coating quality problems and contract costs have caused lengthened internal turnaround times and increased production costs. Also, with the constant changing requirement to support the fleet, keeping long term contracts in place that meet workload needs is difficult. With the hard move to more efficient, lower cost repairing of parts, the inherent inefficiencies of contracting out operations is no longer possible.

ALTERNATIVE #2

Procuring a new robotic plasma spray system was considered. The procurement and installation of a new robotic plasma spray system currently commercially available with the capabilities we require would cost approximately $1.2 million.

ALTERNATIVE #3

Upgrade the existing robotic plasma spray system. This alternative accomplishes the goals of the project in the most economical way. Unlike alternative #1, it provides for better control of the repair process, decreases the turn-around-time of the repa and reduces its overall processing costs. Unlike alternative #2, it provides the maximum equipment benefit to the facility at the least cost. For these reasons , alternative #3 is the logical chose to attain the required capability.

Refurbishment of the existing system will require less than half thus amount.but would provide the capabilities required. The system is a high quality system. The technologies have not changed so radically in this area that we would be refurbishing equipment of obsolete technology. The basic functionality and hardware that exists is sound and will provide a solid foundation for the upgrade.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? The customer has been totally involved in all phases of defining the problem and proposing a solution. Personnel from the Naval Engine airfoil Center (R. Sappenfield and M. Bastyr) have taken part in this decision and will continue to be involved through the implementation of a refurbishment of the existing robotics plasma spray system.

5. IMPACT IF NOT ACQUIRED. Continued high direct and indirect labor cost and extended turn-around-time due to worn and obsolete equipment.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. CASS STATION EQUIPMENT

DNEL0000N

D. NADEP

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
CHERRY POINT			1,049			7,771			422			
JACKSONVILLE						5,405						
NORTH ISLAND			3,652			5,679			4,825			1,807
TOTAL INVESTMENT COST	**0**	**VAR**	**4,701**	**0**	**VAR**	**18,855**	**0**	**VAR**	**5,247**	**0**	**VAR**	**1,807**

PROJECT INFORMATION NARRATIVE:

This request results from the design and development of modularly constructed Automated Test Equipment (ATE). The development program was executed in response to fleet concerns regarding serious deficiencies in existing ATE and recommendations of an extensive 1976 SECNAV study on test equipment. The CASS program is part of the Navy's long range plan to replace existing aging testers. Depot Level support for the F/A-18, F-14, S-3B, and P-3, as well as core avionics, is planned for NADEPs utilizing CASS. Many of the avionics systems scheduled for CASS are new development programs sets developed only for CASS. There are no alternative means of support. Without CASS stations at the NADEPs avionics component workload and aircraft SDLM concurrent repair will not be executable significantly impacting readiness and pipeline assets. The Consolidated Automated Support System (CASS) design incorporate easily reconfigurable modules which can address varying test requirements (e.g. electro-optical, radio frequency, laser, infrared, inertial guidance, etc.) and will also allow modification to meet the demands of future technologies.

CASS is the Navy's latest state-of-the-art avionics automated test equipment to be used to test present and future complex weapons system. CASS will eventually replace the existing testers which includes both common and peculiar ATE. Common ATE has the capability to test electronic assemblies from many different weapon systems, while peculiar ATE tests only one weapon system. CASS represents an approach to testing which consolidates the numbers and types of testers used to implement electronics support. CASS has a standard, yet open-ended system architecture that uses a set of standard test modules from which different configurations are composed to meet specific user test requirements. Only the number of test modules and their collective packaging change to adapt to different user needs. Utilizing the CASS architecture, low-level modules, and a distributed computing systems, it is possible to produce CASS configurations optimized to the particular application. These can range from multiple rack-mounted configurations. All share common assets and software and allow Test Program Set transportability. The four rack-mount configurations include a hybrid tester, RF configuration, Electro Optic configuration and communication/navigation/identification (CNI) configuration.

The CASS program will increase weapon system material readiness, reduce life cycle costs through standardization, improve tester sustainability at depot and intermediate maintenance levels, and provide Navy-wide test capability for existing and future avionics systems. CASS will increase repair facility throughput capability, reduce spare parts and personnel training requirements, and significantly reduce the space required for avionics testing aboard space critical aircraft carriers.

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)												A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Depot Maintenance/Aviation Depot						C. FLASHJET PAINT STRIP (GANTRY TYPE) 6DE9EL0246PE						Jacksonville
	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	3,500	3,500

OPERATIONAL DATE	30-Sep-99		
METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$658,032	$771,339	$1,429,371
AVERAGE ANNUAL SAVINGS (Discounted)	$404,332	$473,954	$878,287
PAYBACK PERIOD	8.0	6.3	2.9
RATE OF RETURN (ROR)	12%	14%	25%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. Flashjet utilizes a xenon flashlamp and carbon dioxide for paint stripping of aircraft. The flashjet process is designed to safely and economically remove aircraft paint coatings without the use of hazardous chemicals or potentially damaging dry media such as plastic media. It will also significantly reduce the amount of hazardous waste generated by the aircraft paint stripping process for fighter size aircraft at NADEP Jacksonville. A gantry type system will l used for small aircraft only, larger aircraft such as the P3 will be addressed at a later date with mobile type units not yet available for production operations.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? Chemical paint stripping produces hazardous waste and has a significant cost in recycling the rinsewaters to the closed loop water treatment plants. The chemicals for paint stripping are being changed from Hazardous Air Pollutants (HAPS) i.e. methylene chloride to non-HAPS such as benzyl alcohol which increases stripping rates threefold, especially during colder weath Dry media stripping with plastic media in hangar 122 cannot be done due to other priorities for hangar usage i.e. masking and priming.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? Other non-HAPS chemical strippers are being tested to comply with OSHA requirements. A high pressure water blast system and a wheat starch dry stripping system is being investigated as a possible alternatives to existing stripper technologies.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes

5. IMPACT IF NOT ACQUIRED. If the flashjet is not acquired, the non-HAPS chemical strippers will significantly increase the stripping rate so as to affect the turnaround time for aircraft repair at the NADEP. The hazardous waste sludge generated by tl treatment of rinsewaters will also increase from the closed loop water treatment plants. Labor costs will be excessive in stripping aircraft and in treating the rinsewaters in the treatment plants.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. 29 Code of Federal Regulation 1910.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. HVOF METAL SPRAY COATING SYSTEM — 6DF9EL0004PE — Cherry Point

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	1,500	1,500

OPERATIONAL DATE	1-Jun-00		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	($915)	$467,760	$466,845
AVERAGE ANNUAL SAVINGS (Discounted)	($562)	$287,418	$286,856
PAYBACK PERIOD	-53.6	4.1	4.1
RATE OF RETURN (ROR)	0%	19%	19%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. This proposed project will provide a robotic High Velocity Oxygen Fueled (HVOF) metal spray system that will be equipped with a HVOF gun system including all gas, power, air, and powder controls and a gantry style robot, metal spray gun, and robot control system gun positioning system that will be controlled from the same control panel as the gun system. The spray operation will be housed in a noise attenuating enclosure as will all the auxiliary units. The enclosure will include the dry filter system for the spray operation, a turntable for part holding, and a dust collector system. This system will allow the depot to enhance its metal spray capabilities while bringing contracted work back into the depot.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/ PROBLEM? Currently, the Naval Aviation Depot contracts out the application of hard face metal sprayed (HVOF) coatings of various F402/406 engine components and an assortment of additional components. The contracting out turn-around-time, intermittent coating quality problems and contract costs are causing lengthened internal turnaround time and increased production costs. Another problem/deficiency is that there are environmental and safety concerns being expressed with respect to chrome plating exposure limits. Presently, all chrome plating is done manually in our plating shop. Occupational Safety Health Administration (OSHA) has published reports leaning towards drastic reductions in the chromium exposures levels allowed in plating shop employee's blood streams. The proposed maximum exposure level is 0.5 micrograms per cubic meter. These findings and report have sent up the red flag in industry and government circles as a 0.5 microgram per cubic meter exposure level will be extremely difficult to comply with. Automated chrome plating lines may be required or at least very extensive protective gear. This problem has been investigated thoroughly by the Materials Engineering branch in the Product Support Directorate (PSD) with inputs from the safety and environmental offices. PSD personnel are taking part in industry/ government panels and committees that are researching alternative methods for chrome application. The use of HVOF metal spray has emerged as the most promising technology in the transition away from chrome plating.

The purpose of this project is to reduce labor costs and turn-around-time associated with the repair of F402 fan blades and other components and to comply with forthcoming EPA and OSHA requirements. The proposed project intends to do this by gaining better control,making it a more efficient process, and by drastically reducing operator exposure to chromium. It is our recommendation to do this by procuring HVOF metal spray technology. Although not reflected in the payback of this project, the use of HVOF metal spray methods to replace chrome platting in certain applications will make this project tremendously more cost effective while allowing this facility to remain competitive and non dependent on outside contractors. The quantity of parts requiring chrome plating are estimated to presently exceed 1000 different part numbers being processed through the plating shop in multiple quantities. Loss of this capability due to safety regulations would be detrimental to this facility's ability to meet production schedules.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? The following alternatives have been considered;

1. Status Quo - Continue to contract out services and ignore studies that have been performed to date.
2. Procure A new robotics HVOF metal spray system.
3. Procure a totally enclosed automated chrome plating line.

Alternative # 1 was not chosen for a variety of reasons. Past experience with contracting out the application of high density coatings of the F402 fan blades has been less than desirable. The contracting out turnaround time, intermittent coating quality problems and contract costs have caused lengthened internal turnaround times and increased production costs. Also, with the constant changing requirement to support the fleet, keeping a long term contract in place that meets workload needs is difficult With the hard move to be more efficient, lower cost repairing of parts, the inherent inefficiencies of contracting out operations is no longer possible. Also, continued operations will eventually result in the loss of chrome plating capabilities which will place t facility further at the mercies of contracting out workload.

Alternative # 2 was chosen because it allows the facility to meet the workload demands of the fleet at the least cost. An HVOF metal spray cell used in conjuction with a limited use chrome plating line is approximately $3M cheaper based on cost of a system installed by Boeing for aircraft rework. Unlike alternative #1, it provides for better control of the repair process, decreases the turn-around-time of the repair and reduces its overall processing costs. Unlike alternative #3, it provides the maximum equipment benefit to the facility at the least cost. For these reasons , alternative #2 is the logical choice to attain the required capability.

Alternative # 3 was not chosen due to the cost of the automated plating line itself and the space such a line would consume. The line would not fit within the existing chrome plating facility at the NADEP.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? The customer has been totally involved in all phases of defining the problem and proposing a solution. Personnel from the 930 Division, 960 Division, Naval Engine Airfoil Center, (W. Jones, B. Piner, R. Sappenfield, R. Kestler, L. Bridges, and M. Bastyr) have taken part in this decision and will continue to be involved through the procurement of a robotic HVOF metal spray system.

5. IMPACT IF NOT ACQUIRED. Continued excessive contract services costs and inability to meet environmental regulations associated with chrome plating.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. AUTOMATED PAINT COATING SYSTEM 6DF9EL0008PE

Cherry Point

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	600	600

OPERATIONAL DATE 1-Jun-00

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$18,358	$190,750	$209,108
AVERAGE ANNUAL SAVINGS (Discounted)	$11,280	$117,208	$128,488
PAYBACK PERIOD	NA	4.0	3.5
RATE OF RETURN (ROR)	2%	20%	21%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

This proposed project will provide an automated paint application system for the purpose of applying primer on small components presently being sprayed by hand in the small components paint shop. The proposed system will be capable of handling approximately 50% of the shop's present workload. The remainder is priming and different paint color applications that can't be sent through the automated line. The proposed automated paint application system will have the required precleaning station paint application station, and drying station. The cell will be capable of handling 2 foot cubed components as a minimum and will be equipped with necessary waste treatment needed to reduce overall waste and emissions.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/ PROBLEM?

Currently, the Naval Aviation Depot paints at numerous locations throughout the facility. Some of the major painting operations are the aircraft paint hangar, the small component parts paint walls, the engine can paint facility, and the engine line paint facility. Each of the painting areas must prime and paint various colors. Automating the painting process would require tremendously large holding tanks for the various colors of paints and considerable cleanup of spray chanmbers and reprocessing equipment. Therefore, automating the painting process at this facility would probably not be feasible. However, all parts require priming before painting. A system could be bought to automatically apply primer to components. About 50% of all work done in the small components paint area is primer work. Small components are normally primed on one side, left to dry for 30 minutes, then flipped over, primed on the other side, and then left to dry for another 30 minutes. Due to the nature of the process, th shop batches these jobs and primes a large quantity of items simultaneously. This process is labor intensive, time consuming, and adds to the turn around time of processing painted components.

Another problem/deficiency are environmental and pollution prevention concerns with our painting processes. Our present paint operation complies with volatile organic compounds (VOC) and solid particulate matter emmision levels. However, future VOC maximum allowable levels may be reduced. OPNAVINST 5090.1B on Pollution Prevention has mandated depot pollution reductions. The two present paint walls in the small components paint shop are the water fall type. Each unit holds approximately 250 gallons of water for a total of 500. When the water becomes heavily laden with paint particles, it begins to clog the manifold that creates the water curtain that traps the overspray particles before exhausting air through the roof. On average, these tanks must be pumped out 6 times a year and the sludge disposed of as hazardous waste. Reducing this effluent would assist the facility's goal to reduce pollution while potentially reducing VOC emissions. The use of powder coating or electrodepositon paint processes are the most promising technologies in the transition away from conventional air spraying.

The following is a breakdown of the advantages and disadvantages of electrodeposition versus conventional air spray system;

Characteristic	Electrodeposition	Air Spray
Percent Paint Applied	at least 95	40 - 60
Fire Hazard	no	yes
Toxic Solvents	no	yes
Runs and Sags	no	yes
Adhesion	high	average
Corrosion Resistance	high	average
Capital Cost	high	average
Operator Skill	low	high
Make Up Air Required	minimal	high
Compressed Air	none	high
Humidity Effects	none	important
Bake Oven Needed	yes	yes
Relative Floor Space	low	high
Flash Off Required	no	yes
Coat Hidden Surfaces	usually	no
Rinse Off Required	yes	no
Colors Available	few	many
Multi-coat systems	no	yes
Film Defects	few	many
Power Required	high	low

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Depot Maintenance/Aviation Depot	C. AUTOMATED PAINT COATING SYSTEM 6DF9EL0008PE	Cherry Point

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

Power Required	high	low
Ultrafilters Required	yes	no
Color Change	difficult	easy
Binder Types	few	many
Electrical Hazards	high	low

* Excerpt from "Understanding Paint and Painting Processes," Dr. G. Schneberger P.E., Copyright 1985

This project aims to reduce labor costs and turn-around-time of small component priming, to lower emission levels by reducing material use, and to comply with pollution prevention instructions by lowering bath water disposals. It will reduce operator time by multiple processing and drying times by using an oven. Use of ultrafilters will minimize waste treatment. Based on these advantages, the priming process will be more efficient and the painter's quality of worklife will be enhanced.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

The following alternatives have been considered;

1. Status Quo - Continue to prime components manually using conventional air spray.
2. Procure an automated paint application system for priming small parts.

Alternative # 1 was not chosen. The existing process will not comply with anticipated environmental regulations, and will not improve labor and turn-around-time performance. The proposed techniques are proven and are used in industry successfully. Accordinly, the status quo is not feasible. Alternative # 1 was not chosen. The existing process will not comply with anticipated environmental regulations, and will not improve labor and turn-around-time performance. The proposed techniques are prov and are used in industry successfully. Accordinly, the status quo is not feasible.

Alternative # 2 was chosen. It provides for better control of the priming process, reduces turn-around-time and overall processing costs in labor and material use, and improves environmental compliance by decreasing emissions and hazardous waste output while continuing to meet workload. The automated primer line should also improve operator morale by reducing part handling requirements. It accomplishes the strategic goals of the facility while providing a reasonable economic payback.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?

The customer has been totally involved in all phases of defining the problem and proposing a solution. Personnel from the 930 Division, Product Support Directorate, Environmental Engineering and Plant Engineering (G. Piner, J. Mercer, J. Whitfield, Game) have taken part in this decision and will continue to be involved through acquisition and installation.

5. IMPACT IF NOT ACQUIRED.

Continued high costs in operation of equipment, sludge clean-up, maintenance and sludge disposal, and primer material costs, all of which could be achieved through acquisition of this equipment.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT.

Mandated by the requirement to comply with the Volatile Organic Compound (VOC) Reduction requirement of OPNAVINST 5090.B

CAPITAL PURCHASES JUSTIFICATION
(Dollars In Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. CONFIGURATION MANAGEMENT INFORMATION SYSTEM (CMIS) 7DE7KL000JGP

D. NADEP

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
TOTAL INVESTMENT COST			0						1,805			0

PROJECT INFORMATION NARRATIVE:
97 Carryover Amount $3,995
Material Management (MM) hardware funds budgeted by the Joint Logistics Systems Center (JLSC) are to support the deployment of Material Management applications at various Navy sites. These sites, encompass various business areas including Research and Development (R&D), Depot Maintenance/Aviation (DM/AV), Supply Management (SM), Depot Maintenance/Ordnance (DM/ORD), and information Systems (IS/NCTC). The Material Management Standards Systems (MMSS) applications to be implemented include Configuration Management Information System (CMIS), Commercial Asset Visibility II (CAV II), and Math Models. CMIS application deployment scheduled for FY97 will occur on time only if new hardware is procured and installed at the planned CMIS sites. Both Math Models and CAV II are scheduled for deployment in the early part of FY 1998, and as such require hardware to be procured in FY 1997, and installed, configured, and tested for CMIS implementation by early FY 1998. MSS hardware is separate from hardware deployed to support the Depot Maintenance Systems (DMS). For example, NADEP Cherry Point and NADEP North Island are scheduled to receive hardware in support of both MMSS and DMS. In each case, the hardware is physically separated between MM and DM functional areas, and is used by different personnel. There is no overlap of MM or DM hardware requirements.

The type and amount of equipment needed is dependent upon projects fielded, the size of each site, and the availability and applicability of equipment currently at that site. This requirement is based upon FY 1996 site surveys. As project deployment to a specific site nears, a final survey will be conducted to confirm requirements. Representative configurations vary in size from those including servers at approximately $314K - $650K per site, to personal computer workstations with 17 or 15 inch displays at $2.7K - $3.1K per workstation per site, and X-terminal workstations at a cost of $2K. Cost also include MMS connectivity to Local Area Networks (LANs).

The MMS applications will provide a radically improved capability to the Military Services and DLA, reduce DoD costs for information services and establish an information system infrastructure on which DoD can improve the way it does business. Specific improvements include:- Reduced inventories through better management information on purchase decisions; -Reduced labor requirements for material management processes;-Reduced rework caused by inaccurate or incomplete configuration data;- Reduced information technology costs; - Improved visibility and control of assets.

Actual cost savings cannot be accurately calculated until the full suite of MMSS applications are in place and fully operational, and the full spectrum of improved business processes enabled by MMSS deployments is realized. The largest cost savings are anticipated from the CMIS described below. Additionally, once implementation of MMSS systems is complete, legacy applications will be reduced or eliminated, significantly decreasing ADP costs.

The CMIS application is managed within the Supply Management business area but used at various business area sites. It manages weapon system configuration data both within and between program offices and System Commands. The most significant function affected by CMIS is inventory spares management. The method of computing inventory spares is dependent upon accurate configuration data for each weapon system platform (aircraft/ship/submarine, etc.). Of all the System Commands, NAVSUP is projected to benefit the most from CMIS. More specifically, CMIS deployments to NAVAIR/NAVSEA sites will enhance the ability of NAVSUP to achieve several of its long range strategic goals. Greater accuracy in configuration data delivered through the CMIS application will facilitate the implementation of advanced readiness based sparing models, which will result in less investment for inventory spares while maintaining and possibly improving fleet readiness. A more streamlined, accurate flow of configuration data through the CMIS application will facilitate NAVSUP in achieving its goal of reducing/attacking the logistics infrastructure and downsizing its workforce. Without the requisite hardware, the CMIS application cannot be deployed on schedule and to the requisite NAVAIR, NAVSEA, NAVSUP, NCTC, and Ordnance sites, and the anticipated savings and logistics business process improvements cannot be realized.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. LAN Enhancement 6DF7KL0001GR Cherry Point

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			800			0	1	1,000	1,000

OPERATIONAL DATE 29-Jan-00

METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$496,283	$9,620	$505,903
AVERAGE ANNUAL SAVINGS (Discounted)	$376,261	$7,293	$383,554
PAYBACK PERIOD	2.4	NA	2.3
RATE OF RETURN (ROR)	38%	1%	38%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. Phase I of this project seeks to provide the necessary hardware and software to allow desktop access to Asynchronous Transfer Mode (ATM) technology and will occur in FY97. The Phase I portion of th solution will provide the increased bandwidth necessary to transport images, as well as data, rapidly within and outside this depot. Phase II of this project will occur in FY99 it will complete the backbone for this project. This project will reduce the existing non-productive time that has resulted from limited Local Area Network (LAN) accessibility (Current LAN technology only affords a throughput of 5 megabit, while ATM affords a throughput of 155 megabits). This solution will also reduce maintenance costs for areas using Network Interface Unit (NIU) technology, provide LAN accessibility for areas currently not connected, and reduce network traffic by allowing segmentation (smaller share groups). Use of ATM as the backbone will open the door for future convergence of voice, data, and full motion video needs into a single network. ATM, along with baseband segmentation will provide a more secure network due to: 1) the physical media used (fiber optic is more difficult to tap), 2) its speed (reduces the risk of perusal of individual packets), and 3) segmentation (limits exposure).

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/ PROBLEM? Approximately 9 years ago, a broadband local area network (LAN) was installed at this NAVAVNDEPOT Cherry Point via the Naval Aviation Logistics Center Communication and Office Information Systems (NALCCOIS) project. This LAN (which was designed for terminal/host type traffic needs) allowed connectivity to mainframe computers for corporate systems such as Workload Control System (WCS), Navy Industrial Financial Management System (NIFMS), Navy Maintenance and Material Management System (NMMMS), etc. Since this implementation, numerous desktop based applications have developed, along w an increased need to share information. This sharing of information, particularly, the desktop based applications has created a demand that the existing LAN was not designed to (and can no longer efficiently) meet. Improvements in software tools at the desktop, have allowed transport of legacy system databases to the desktop, opened the door to move away from proprietary terminal/host applications and move towards standards compliant client/server type architectures. DOD sponsored projects suc as JCALS, JEDMICS, and RAMP/IPDE (Integrated Product Data Management) have greatly increased the need to transport images (CAD, other graphics) as well as their associated data. The competitive nature of our business dictates the need to access global information (NAVWAN, DISN, Internet). However, accessing this information has created a need for greater bandwidth than that readily afforded by the existing LAN. Due to this increased "traffic" on the LAN, the average user expends at least five minutes during the day waiting to access the LAN. Though, five minutes may not seem to be a large number, when calculated across only 50% of the existing depot populous, at an average hourly wage of $24/hour (with fringe benefits), this five minutes/day equates to 42,020 hours of non-productive time each year at a cost of $1,008,480. Though minor in comparison, we currently expend numerous labor hours and maintenance dollars to provide network access to a number of users in remote locations and locations that do not now have baseband connection. NIU connects represent the technology of the early 1980's. Thus, repair/replacement parts are scarce and costly.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
STATUS QUO - Continue with broadband backbone and implementation of baseband segments in isolated areas.
DISADVANTAGES: 1) Obsolete technology - As technology is rapidly changing and broadband technology is now being phased-out, our ability to be connected to the "world" via a network will become nonexistent. 2) Congestion on the LAN -Although we have access to NAVWAN, DISN, and the Internet, the bandwidth is not adequate to do so efficiently; also the bandwidth nor network speed is not adequate to efficiently support projects requiring the transport of images.3) Remaining with status quo will nullify the FY97 ATM backbone installation 4) Implementation of other time/cost saving projects, such as technical drawing/technical manual/specification/instruction distribution and graphics distribution can not occur or be effectively implemented.
ADVANTAGES: No procurement cost.
Alternative 1: Implementation of Fiber Distributed Data Interface (FDDI).
DISADVANTAGES: The cost is the same, as ATM, but the net result in benefits are not as great (throughput of FDDI is only 100 megabit, as opposed to the 155 megabit of ATM). Further, the cost to implement FDDI is greater than that of ATM (hardwar as well as software). FDDI requires more cabling resource (FDDI requires four fibers, while ATM requires only two). Thus, this solution will achieve less at a greater cost.

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Depot Maintenance/Aviation Depot	C. LAN Enhancement 6DF7KL0001GR	Cherry Point

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)
Alternative 2: The recommended solution is to procure addition hubs, ports, ATM cards, etc. Install a. Implementation of this solution will provide a greater quality of service to the desktop. It will allow for such features as isolated virtual circuit (rather than the current sharing of a 10MB line, users would have their own "isolated circuit"; priority service (data could be prioritized for gaining bandwidth); virtual LAN (information pertaining to specific groups could be isolated for access only to those persons, giving greater security); speed (ATM to the desktop would allow access to/transmission of data 15 to 30 times faster than the existing ethernet connections).

DISADVANTAGES: The procurement cost

ADVANTAGES: 1) Reduction in non-productive time resulting from limited LAN accessibility.. 2) Reduction in maintenance costs for areas using NIU technology. 3) Reduction in network traffic. 4) Provide LAN accessibility for areas currently not connected, . 5) Allow future expansion of voice, data, and full motion video needs into a single network. 6) Securer network

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes, the customer has been actively involved in the development of this solution and agrees with the proposed alternative.

5. IMPACT IF NOT ACQUIRED. Discussed in paragraph 3.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)												A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Depot Maintenance/Aviation Depot						C.	NALCCOIS Replacements 6DF7KL0006GR					Cherry Point
	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0	1	644	644	1	1,300	1,300	1	1,000	1,000
OPERATIONAL DATE	30-Aug-98		FY 1998			30-Aug-99		FY 1999				
METRICS:	AVOIDANCE	SAVINGS	TOTAL			AVOIDANCE	SAVINGS	TOTAL				
PROJECTED ANNUAL SAVINGS	$756,677	$233,729	$990,406			$756,677	$233,729	$990,406				
AVERAGE ANNUAL SAVINGS (Discounted)	$573,680	$177,203	$750,883			$573,680	$177,203	$750,883				
PAYBACK PERIOD	2.0	8.5	1.5			1.5	5.9	1.1				
RATE OF RETURN (ROR)	44%	14%	58%			57%	18%	75%				

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The Naval Aviation Logistics Center Communication and Office Information Systems (NALCCOIS) Replacement Project will provide replacements for the existing 80286 microprocessor based PCs. Due to the large number of PCs to be replaced, the large number of people to be trained, and the limitations on funding to execute the replacements, a phased implementation is necessary. Therefore, this project will focus on replacing one third the existing 802886 PCs (one-third will be replaced in FY97, one-third during FY98 and the remaining third in FY99). The depot has established a baseline configuration for replacement PCs.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/ PROBLEM? The 80286 microprocessor based PC machines have exceeded their useful life expectancy of five years, but have long been superseded by technology. Today's technology requires greater processing power and memory not afforded by an 80286 based microprocessor. Most of the available software packages currently used by the depot cannot be loaded to or run on these units. In addition to technical obsolescence, a number of the units are in poor physical condition due to exposure to the depot industrial environment. Monitors, keyboards, internal circuit boards, hard drives, floppy drives, etc. are in need of repair or replacement. To add to this problem is the difficulty in obtaining replacement parts. When parts are available, they are at a premium cost (i.e. LAN cards for these machines currently cost $500 and this cost is expected to increase). A comparable LAN card for newer PC costs less than $100). Often computers are repaired by replacement and the removed 80286 is cannibalized for replacement parts. Needless to say, repair by replacement is an inefficient and expensive approach to solving the long ter problem of upgrading obsolescent machines. The NALCCOIS Replacement Project will provide replacements for the existing 80286 microprocessor based PCs. Most of the application software presently used requires a Windows based operating system and higher versions of Windows (3.11, NT 3.51and NT 4.0) can not run on the 80286s. With the present 80286s it would not be possible to receive, process, transmit, technical drawings and data internally and externally, because there is not enough memory, hard drive space, and/or processor speed. This would halt the transmission of information across the network, which would cause work stoppages and delays in many of the production areas which require technical information to complete the jo

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
Status Quo: Do Nothing - This alternative has been considered, however, it is unrealistic to believe that the existing PCs will continue to operate much longer. Delaying the replacement of the existing PCs will decrease the ability of the depot to produc its work and increase the cost associated with replacement. Status Quo is an unacceptable alternative.
Alternative 1: Dispose of PCs as they fail - This alternative would create havoc in the workplace. Without having immediate replacements for failed PCs, all efforts produced utilizing the failed PCs would cease until replacements could be procured. The average turn-around-time for such procurements is at least 60 days from requirement development to installation. Clearly, this is not a feasible alternative.
Alternative 2: Selectively Replace Old, Technically Obsolete PC Assets - We cannot continue to effectively operate with the existing 80286 PCs. Computer Mechanics currently average 57 repairs per week on these computers. Further, some parts are no longer available for replacement, and others are becoming more difficult to obtain. These systems will eventually fail and have to be replaced. The proposed project seeks to provide an organized and executable approach to this inevitable situation.
Alternative 3: Replace the existing 80286 microprocessor based PCs with new Pentium PCs. The project will focus on replacing one third the existing 80286 PCs (one-third will be replaced in FY97, one-third during FY98 and the remaining third in FY9

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes, the team for this project is comprised of: Manufacturing Engineering - Information Systems Group (Code 6.3.613), Equipment Planning and Engineering (Code 6.3.615), Planning and Operations (Code 7.2.211), Technical Support Branch (Code 7.2.214). This team agrees with the proposed solution as indicated in section II above.

5. IMPACT IF NOT ACQUIRED. Discussed in paragraph 2.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. Joint Eng. Data Management Info. & Control Sys. 3DF8KL0000GR

Cherry Point

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	1,500	1,500			0

OPERATIONAL DATE 1-Oct-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$348,990	$0	$348,990
AVERAGE ANNUAL SAVINGS (Discounted)	$264,589	$0	$264,589
PAYBACK PERIOD	5.9	#DIV/0!	5.9
RATE OF RETURN (ROR)	18%	0%	18%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The Joint Engineering Data Management Information and Control System (JEDMICS) is a drawing management and distribution system which will allow access to drawings at various locations throughout the depot via the existing Local Area Network (LAN). This system would use the Department of Defense JEDMICS to obtain currently used drawings from Naval Air Technical Services Facility (NATSF) in an electronic format. This project will acquire and install the system at the NADEP.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/ PROBLEM? The Technical Libraries Division procures, maintains, and distributes all aeronautical engineering drawings required withi the NADEP Cherry Point, NC. This division currently films, stores, and reproduces engineering drawings in both paper and aperture card format. These drawings include those obtained from various private contractors, other Naval Activities via NATSF, a well as locally prepared drawings from the Engineering Competency and the Production Support Department.

The main drawing files are located in Building 137. Due to the number of areas requiring access to these drawings and their varying locations, it has been necessary to establish satellite files for various programs. We currently have two satellite areas (Building 133 - Engines and related programs and Building 4032 - Ground Support Equipment). However, the need for a number of additional satellite areas has developed. With the addition of workload and personnel resulting from the Base Realignme and Closure Commission decisions, office and production space has become very limited. Personnel have been located as far as three miles from the main repository. There are currently four such facilities being used and other facilities being planned. Based on the current stabilized labor rate for the 3.0 and 4.0 competency, it currently costs approximately $100,000 annually to operate and maintain the two existing satellite libraries. Note this does not include the set-up cost for these libraries (cost for aperture cards and facility set-up).

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

Status Quo: This alternative requires artisans and engineers to place orders for drawings via telephone and then walk or drive to the location having the desired drawing. For persons located in close proximity to the drawing files or satellite area whe the drawing resides, this will take approximately 5-10 minutes at most. However, for all other areas, which includes 13 major buildings and numerous others (trailers, test cells, aircraft cans, etc), picking up a drawing could take anywhere from 15-30 minutes. Numerous labor hours are being spent traveling to and from the drawing files. With the increased workload and the relocation of personnel to locations outside the depot (specifically the leased locations in Havelock, NC and building 488 locate at the far end of the Marine Corps Air Station Cherry Point, NC), this time has increased significantly.

Alternative 1: Establish satellite drawing files in other areas for convenience. This would require establishing at least six additional satellite drawing files (three leased locations and buildings 488, 1700, and 4225. Other areas are close enough to the existing areas to be able to pickup drawings in at least within 15 minutes. This alternative would be quite costly. Initial setup for such satellite files would cost approximately $27,000/library (or $162,000 for six additional satellite files). The cost to maintain and operate one satellite library is approximately $50,000/year. Therefore, the total cost would be $100,000 (for 2 existing satellite files) + 300,000 (for 6 additional files) or $400,000/year. In addition, the cost for artisans and engineers traveling to and fr these locations will only be slightly reduced. Further, as the depot expands, additional satellite drawing files would have to be established. There are two such facility projects currently underway and expected to be completed prior to implementation of this project. Therefore, the cost to provide additional satellite files would increase by $154,000 ($54,000 for setup of two additional satellite files and $100,000/year to operate).

Alternative 2: Procure JEDMICS workstations only and locate throughout the facility. This would be a very costly solution. The cost to procure hardware and software for a medium Engineering Drawing Management system would cost about $900,000. This would include procurement of at least 9 such systems (one system for each satellite area and the main drawing files) with the procurement of one basic training package. The maintenance for these systems would be approximately $100,000/year. This solution will not eliminate the travel time for artisans and engineers (since they would still be required to travel to an area having a JEDMICS workstation

Alternative #3 Procure, install, and connect to the Local Area Network a JEDMICS server to enable access to drawings from the users desktops. This alternative provides the highest productivity increase since it will work over the existing network ar use existing equipment in most places. Travel time is reduced to zero, since the information is brought to the user, rather than requiring the user to go seek the information.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes, the customer has been actively involved in the development of this solution and agrees with the proposed alternative.

5. IMPACT IF NOT ACQUIRED. If the NADEP does not acquire this system it will have to establish at least six additional satellite drawing files (three leased locations and buildings 488, 1700, and 4225. Other areas are close enough to the existing are to be able to pickup drawings in at least within 15 minutes. Initial setup for such satellite files would cost approximately $27,000/library (or $162,000 for six additional satellite files). The cost to maintain and operate one satellite library is approximately $50,000/year (or $200,000/year).

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)												A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Depot Maintenance/Aviation Depot						C. E-MAIL SERVER SYSTEM REPLACEMENT 6DF8KL0012GR						Cherry Point
	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0	1	500	500			0

OPERATIONAL DATE	1-Oct-98		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$34,811	$23,188	$57,999
AVERAGE ANNUAL SAVINGS (Discounted)	$26,392	$17,580	$43,972
PAYBACK PERIOD	NA	NA	20.8
RATE OF RETURN (ROR)	5%	4%	9%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The proposed solution is to procure replacement hardware for the rapidly dying VAX 8530 computers and upgrade/replace our existing electronic mail software. This solution should allow us to provide electronic mail throughout the depot, continue interface with the TEAM efforts, reduce maintenance cost, and provide ease of use to users as well as system administrators and programmers.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/ PROBLEM? As part of the NALCCOIS initiative approximately 10 years ago, two VAX 8530 computers (EIN 036409) using an E-mail product called "All-In-1, (marketed by Digital Equipment Corporation (DEC)), along with various other software, were installed at this depot to provide "depot-wide" E-mail, one of the computers was configured as the "primary" E-mail device, with the other configured as a "backup". The existing system is primarily used to exchange E-mail within this depot, between this depot and other NAVAIR sites, as well as forward non-classified Naval messages to the Communications Center at Marine Corps Air Station Cherry Point (for subsequent distribution to other Naval sites). It also incorporates a budget development application Computerized Workload Projection and Budgeting System (CWPABS) used for financial submissions to Naval Air Systems Command. Due to the age and technical obsolescence of this system, maintenance for both the hardware and software has become excessively expensive as well as difficult to obtain. Due to the marked advances in technology over the past few years, software upgrades are rapidly becoming limited for this hardware. Further, backups of system files must be done manually (there is no way to automate this process with the existing system). Also the depot currently experiences failure of at least one component once every two weeks. These failures result in system downtimes averaging 4 hours/days), which create difficulties and delays for users in gaining access to the information resources on these systems. Response times have become extreme slow and often users are unable to gain access at all. To further compound the access problem is the near term growth of the depot due to Base Realignment and Closure Commission (BRAC) transitions. The current number of users exceeds 900, and is expected to reach 2000 in the next two to three years.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

STATUS QUO: Continued use of the existing VAX 8530 computers and antiquated software.

ADVANTAGES: 1) No additional outlay of capital funding. 2) Existing in-house skills could continue to be used; no additional user training will be required.

DISADVANTAGES: 1) The existing computers are down at least once every two weeks, sometimes more frequently. 2) Further, some replacement parts are no longer available. 3) The existing software for these machines has limited expansion capabilities. 4) Some of the software is now only available via CD-ROM. 5) New personnel required to perform system administration/software management would have to be trained for use of obsolete technology (i.e., this training cannot be applied to most other systems being used by this depot. 6) Maintenance costs will continue to increase substantially in the near term with the continued aging and deterioration of the system.

ALTERNATIVE 1: Procure other DEC computers as replacement for the VAX 8530s, along with automated tape backup unit and CD-ROM drive to allow continued use of existing All-In-1(and other existing software; Pathworks, Message Router Gateway, TeamRoute, TEAMLINKS, etc.).

ADVANTAGES: This alternative will allow continued use of existing investments where practical: 1) Existing in-house (and corporate) skills could continue to be used for programming and analysis; 2) No additional training would be required for existing users; 3) Participation in TEAM projects can continue; 4) Current manual backups will be automated, thus decreasing computer operator labor hours; 5) Upgraded software provided via CD-ROM can be used; 6) Hardware maintenance costs will decrease 7) Material Cost (tapes used for backup) will decrease significantly.

DISADVANTAGES: 1) Although existing software can continue to be used, upgrades of this software will have to be purchased and license transfer fees (from the VAX 8530s to a different type machine) will be required. Also, new software will have to be purchased and software maintenance costs are expected to increase due to the additional software. Training will be required to familiarize existing programming and analysis personnel with upgraded software capabilities and use of new hardware. 2) This alternative requires a capital outlay of approximately $500,000.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes, the "customer" for this requirement is the entire depot.

5. IMPACT IF NOT ACQUIRED. See Para 3, "Status Quo" Disadvantages.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. STANDARD PROCUREMENT SYSTEM (SPS) DN8KL0000GR

D. NADEP

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
CHERRY POINT							1	VAR	30			
JACKSONVILLE							1	VAR	2			
TOTAL INVESTMENT COST	0		0	0		0	2	VAR	32	0		0

PROJECT INFORMATION NARRATIVE:

1. DESCRIPTION & PURPOSE OF PROJECT. The Standard Procurement System (SPS) is a DoD-wide standard acquisition automated system which is mandated by the Office of the Secretary of Defense (Ref: OUSD memo of 12 July, 1996, Subj: Contracting Software Policy Guidance and ASN (RD&A) memo of 20 Feb 1997, Subj: Standard Procurement System. The first DoD service to be implemented with SPS is the Navy. Because funding has only been allocated by the SPS Program Management Office (PMO) of the SPS software, NAVAIR has identified TEAM funding requirements for both the EOB and NWCF communities. However, since some costs are nonseverable, the EOB community has budgeted for and will absorb those costs. The funds required in the NWCF community are to cover hardware infrastructure and implementation costs specific to a site. The SPS System's database is a commercial off-the-shelf using PD2 database. PD2 is an automated, Windows-based procurement system that supports all phases of the Defense Acquisition processing, including requisition processing, major weapons contracting (pre and post award), service contracting (pre and post award), contract administration, small purchase pre and post award, etc. The paramount feature of PD2 is that it is an electronic Desktop, complete with folders, cabinets, and routing envelopes. Users can copy and paste text from PD2 to other Windows application. PD2 is EDI compliant/capable and will interface to MOCAS (or the future DPPS). It will send information to a centrally maintained Shared Data Warehouse. This will result in centrally maintained data that is required for answering data calls to higher authority. This system will eliminate the need to care for, maintain and fund many, many contract locally homegrown automated MIS systems currently in place across the Contract Competency.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? SPS is a DoD-wide standard automated system. The intent is to migrate all procurement systems to SPS which will support information that will be used to make various executive decisions.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? SPS is a DoD-mandated standard acquisition automated system. There are no automated alternatives.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? SPS is a DoD-mandated standard acquisition automated system. It is a commercial-off-the shelf software which has been modified for DoD-specific contracting requirements.

5. IMPACT IF NOT ACQUIRED. ASN has stated that contracting authority will be revoked for any Navy Command that does not implement SPS. If SPS is not fully funded, it will not implemented and therefore, NAVAIR could lose its contracting authority. In addition, OSD has mandated not only the DoD-implementation of SPS, but all legacy system will cease to be operated, supported, and maintained. Furthermore, funding approval for future system development, regardless of the size, that duplicates SPS functionality will not be granted.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. Not applicable.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depots

C. DIFMS/NIMMS OSE REENGINEERING DN8DL0000GP

D. NADEP

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
CHERRY POINT-OSE Reengineering Costs									606			312
JACKSONVILLE-OSE Reengineering Costs									598			308
NORTH ISLAND-OSE Reengineering Costs									596			307
TOTAL INVESTMENT COST			0			0			1,800			927

PROJECT INFORMATION NARRATIVE:

The NAVAIR Industrial Financial Management System (NIFMS) is the Department of the Navy's Depot Maintenance and Research and Development (R&D) Navy Working Capital Fund (NWCF) interim migratory accounting system. It was recommended by the Defense Working Capital Fund (DWCF) Policy Board, formerly the Defense Business Operations Fund (DBOF) Corporate Board and selected by the Under Secretary of Defense (Comptroller). This system was selected to support the Department of Defense initiative to reduce the total number of accounting systems. Additionally, the Department of the Air Force has selected NIFMS as their accounting system for the Air Logistic Centers. The Defense Finance and Accounting Service (DFAS) will change the name from NIFMS upon transfer of ownership to DFAS from the Navy. The new system name will be the Defense Industrial Financial Management System (DIFMS).

The current version of DIFMS is a ten year old DMS-1100 hierarchical data base management application hosted on UNISYS mainframe computers at the Defense Megacenters. The reengineering of DIFMS to a relational database technology, using modern programming language in a client-server architecture, will reduce software coding by 30 percent, which will simplify future system changes. This will reduce maintenance costs, improve system flexibility, improve data accessibility, enhance ad hoc reporting capability, increase system performance, consolidate systems, add increased functionality/capabilities, and improve overall reliability. Additionally, the reengineered DIFMS will maximize user-friendliness, as well as functionality/capabilities across multi-vendor platforms.

DFAS, Air Force, and Navy have agreed to share the cost of reengineering DIFMS equally. The NAVAIR Industrial Material Management System (NIMMS) and the DIFMS Time and Attendance module will also be reengineered due to the integration of both of these modules within DIFMS. This request contains only the Navy's portion of the DIFMS, NIMMS, and DIFMS T&A reengineering efforts.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Depot Maintenance/Aviation Depot

C. DEPOT MAINTENANCE SYSTEM (DMS) - JLSC TRANSFER
DN8DL0JT1GP

D. NADEP

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
CHERRY POINT							1	VAR	2,666	1	VAR	4,823
JACKSONVILLE							1	VAR	2,667	1	VAR	3,073
NORTH ISLAND							1	VAR	2,667	1	VAR	4,804
TOTAL INVESTMENT COST	0		0	0		0	3	VAR	8,000	3	VAR	12,700

PROJECT INFORMATION NARRATIVE:

These funds are to support the fielding of the Depot Maintenance System (DMS) suite of migration applications being developed by the Joint Logistics Systems Center to NADEP maintenance depots. During the recent budget review, the responsibility for acquisition of hardware was transferred from the JLSC to the Military Services.

The Depot Maintenance System (DMS) is using an evolutionary program strategy to deliver the enterprise functionality to support improved business processes required for effective depot maintenance operations across the Department of Defense. This functionality will be provided through the development of a suite of applications with critical interfaces to legacy and other major systems. These applications address major end item management, commodities repair, and specialized support (tool management, hazardous material management, enterprise information management, and interservice workload tracking). The objective is to provide to the user a suite of service specific migration applications with basic interfaces to the legacy environment.

DMS will provide the Services a revolutionary step forward in functional capability and automation, including a systems infrastructure upon which to make significant strides in business process improvement. Benefits will be realized in two primary areas: business performance and information systems costs. Business performance will be enhanced through the process improvements delivered by DMS applications to support the Depot Maintenance Improved Functional Baseline (IFB). These improvements include:reducing cycle times to make more assets available to support the war fighter, providing accurate delivery schedules to support mission planning, reducing expenses and inventory to lower the cost to the war fighter, improving readiness, sustainment, and interoperability for the war fighter, reducing labor through better resource and work planning, reducing overhead through elimination of non value-added activity, and improving schedule performance through more complete asset visibility; once implementation is complete and legacy applications are reduced or eliminated, ADP costs will come down markedly.

Without this investment, needed improvements to the depot business process and infrastructure will not be achieved. Implementing enhanced repair and overhaul capabilities is a critical contribution toward improving mission readiness in a downsizing environment. As the DoD weapon systems continue to age, reductions to the workforce continue and the number of depots are reduced, efficient and effective organic repair capability is of increasingly growing importance to DoD in maintaining weapon systems combat readiness. In order to meet this demand, the depot community needs to dramatically strengthen its business processes and the associated information infrastructure (hardware).

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)												A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Depot Maintenance/Aviation Depot						C. CONFIGURATION MANAGEMENT INFORMATION SYSTEM (CMIS) - JLSC TRANSFER DN9DL0JT2GP						D. NADEP
	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
TOTAL INVESTMENT COST			0			0			0	3	1,700	5,100

PROJECT INFORMATION NARRATIVE:

Material Management (MM) hardware funds budgeted by the Joint Logistics Systems Center (JLSC) are to support the deployment of Material Management applications at various Navy sites. These sites, encompass various business areas including Research and Development (R&D), Depot Maintenance/Aviation (DM/AV), Supply Management (SM), Depot Maintenance/Ordnance (DM/ORD), and Information Systems (IS/NCTC). The Material Management Standards Systems (MMSS) applications to be implemented include Configuration Management Information System (CMIS), Commercial Asset Visibility II (CAV II), and Math Models. CMIS application deployment scheduled for FY97 will occur on time only if new hardware is procured and installed at the planned CMIS sites. Both Math Models and CAV II are scheduled for deployment in the early part of FY 1998, and as such require hardware to be procured in FY 1997, and installed, configured, and tested for CMIS implementation by early FY 1998. MSS hardware is separate from hardware deployed to support the Depot Maintenance Systems (DMS). For example, NADEP Cherry Point and NADEP North Island are scheduled to receive hardware in support of both MMSS and DMS. In each case, the hardware is physically separated between MM and DM functional areas, and is used by different personnel. There is no overlap of MM or DM hardware requirements.

The type and amount of equipment needed is dependent upon projects fielded, the size of each site, and the availability and applicability of equipment currently at that site. This requirement is based upon FY 1996 site surveys. As project deployment to a specific site nears, a final survey will be conducted to confirm requirements. Representative configurations vary in size from those including servers at approximately $314K - $650K per site, to personal computer workstations with 17 or 15 inch displays at $2.7K - $3.1K per workstation per site, and X-terminal workstations at a cost of $2K. Cost also include MMS connectivity to Local Area Networks (LANs).

The MMS applications will provide a radically improved capability to the Military Services and DLA, reduce DoD costs for information services and establish an information system infrastructure on which DoD can improve the way it does business. Specific improvements include:- Reduced inventories through better management information on purchase decisions; -Reduced labor requirements for material management processes;-Reduced rework caused by inaccurate or incomplete configuration data;- Reduced information technology costs; - Improved visibility and control of assets.

Actual cost savings cannot be accurately calculated until the full suite of MMSS applications are in place and fully operational, and the full spectrum of improved business processes enabled by MMSS deployments is realized. The largest cost savings are anticipated from the CMIS described below. Additionally, once implementation of MMSS systems is complete, legacy applications will be reduced or eliminated, significantly decreasing ADP costs.

The CMIS application is managed within the Supply Management business area but used at various business area sites. It manages weapon system configuration data both within and between program offices and System Commands. The most significant function affected by CMIS is inventory spares management. The method of computing inventory spares is dependent upon accurate configuration data for each weapon system platform (aircraft/ship/submarine, etc.). Of all the System Commands, NAVSUP is projected to benefit the most from CMIS. More specifically, CMIS deployments to NAVAIR/NAVSEA sites will enhance the ability of NAVSUP to achieve several of its long range strategic goals. Greater accuracy in configuration data delivered through the CMIS application will facilitate the implementation of advanced readiness based sparing models, which will result in less investment for inventory spares while maintaining and possibly improving fleet readiness. A more streamlined, accurate flow of configuration data through the CMIS application will facilitate NAVSUP in achieving its goal of reducing/attacking the logistics infrastructure and downsizing its workforce. Without the requisite hardware, the CMIS application cannot be deployed on schedule and to the requisite NAVAIR, NAVSEA, NAVSUP, NCTC, and Ordnance sites, and the anticipated savings and logistics business process improvements cannot be realized.

DEPARTMENT OF THE NAVY - DEFENSE BUSINESS OPERATIONS FUND
DEPOT MAINTENANCE - AVIATION DEPOTS
CAPITAL BUDGET EXECUTION
(DOLLARS IN MILLIONS)
FY 1998

ITEM LINE #	ITEM DESCRIPTION	Original Request	Change	Revised Request	Explanation/Reason for Change
	1a. EQUIPMENT, OTHER THAN ADPE & TELECOM (>$500K)				
	Replacement				
6 DE 8 EL 0240 P R	CNC LATHES (4)	1.390	(1.390)	0.000	1.390 transferred to ADP Project CMIS.
6 DE 8 EL 0241 P R	AUTO EDDY CURRENT SYSTEM UPGRADES (2)	1.015	0.000	1.015	
6 DF 8 EL 0022 P R	MONARCH MILLING MACHINE REPLACEMENT	0.525	0.000	0.525	
6 DF 9 EL 0021 P R	K & T MODULINE 5 AXIS REBUILD	0.500	(0.500)	0.000	Project moved to FY 99. Transferred $500k to to E MAIL Server System Replacement.
6 DC 8 EL 0387 P R	DAATS TPS OFFLOAD	2.160	0.000	2.160	
6 DC 8 EL 0360 P R	C-SCAN ULTRASONIC INSPECTION	0.850	0.000	0.850	
6 DE 8 EL 0251 P R	CNC LASER PUNCH	0.758	0.000	0.758	
6 DF 9 EL 0004 P P	AUTOMATED WATER JET COATING REMOVAL SYSTEM	0.750	(0.750)	0.000	Project moved to FY 99. Transferred $750k to equipment installation .
	Productivity				
6 DF 8 EL 0009 P P	AUTOMATED PLASMA SPRAY SYSTEM UPGRADE	0.500	0.000	0.500	
	New Mission				
DN EL 0000 N	CASS STATION EQUIPMENT	4.825	0.422	5.247	
6 DF 8 ES 0002 P P	COLD ROLLING PROCESS FOR PROPELLER BLADES	0.500	(0.500)	0.000	Revised estimate to $300k. Project moved to under $500k category. Transferred the $200k to equipment installation.
	SUBTOTAL EQUIPMENT, OTHER THAN ADPE & TELECOM (>$500K)	13.773	(2.718)	11.055	
DN ES 0000	**1b. EQUIPMENT, OTHER THAN ADPE & TELECOM (<$500K)**	7.298	0.128	7.426	
	2. GRAND TOTAL EQUIPMENT, OTHER THAN ADPE & TELECOM	21.071	(2.590)	18.481	
DN MC 0000	**3. MINOR CONSTRUCTION**	4.155	0.255	4.410	
	GRAND TOTAL NON-ADP CAPITAL PURCHASES PROGRAM	25.226	(2.335)	22.891	

DEPARTMENT OF THE NAVY - DEFENSE BUSINESS OPERATIONS FUND
DEPOT MAINTENANCE - AVIATION DEPOTS
CAPITAL BUDGET EXECUTION
(DOLLARS IN MILLIONS)
FY 1998

ITEM LINE #	ITEM DESCRIPTION	Original Request	Change	Revised Request	Explanation/Reason for Change
	1a. ADPE & TELECOMMUNICATIONS (>$500K) Computer Hardware (Production)				
6 DF 8 KL 0006 G R	NALCCOIS REPLACEMENTS	1.000	0.300	1.300	$300k was previously reprogrammed from NALCCOIS in FY97 to fund the 98 CAD System in FY 97. This transfer restores funding to NALCCOIS.
3 DF 8 KL 0000 G R	JEDMICS	1.500	0.000	1.500	
6 DF 8 KL 0012 G R	E-MAIL SERVER SYSTEM REPLACEMENT	0.000	0.500	0.500	Previously approved FY 97 project moved to FY 98 Funds transferred from K&T Moduline 5 Axis Machine Center Rebuild (500k).
7 DE 7 KL 000J G P	CONFIGURATION MGMT INFO SYS (CMIS)	0.000	1.805	1.805	1.805k for CMIS was moved from FY 97. $1.390k was transferred from CNC Lathes and Abrasive Cleaning Blastrooms (415k).
DF 8 KL 0000 G R	STANDARD PROCUREMENT SYSTEM (SPS) (2)	0.000	0.032	0.032	SPS is a standard acquisition automated system mandated by OUSD memo of 12 July 1996. $32k was transferred from other categories.
	SUBTOTAL ADPE & TELECOMMUNICATIONS (>$500K)	2.500	2.637	5.137	
DN KS 0000	1b. ADPE & TELECOMMUNICATIONS (<$500K)	2.320	(0.302)	2.018	
	2. GRAND TOTAL ADPE & TELECOMMUNICATIONS	4.820	2.335	7.155	
DF 8 DL 0000 G P	DIFMS/NIMMS OSE REEINGINEERING	0.000	1.800	1.800	Increase for recent Navy decision to move DIFMS to Open System Environment (OSE).
DN 8 DL 0JT1 G P	DEPOT MAINTENANCE SYSTEM (DMS) - JLSC TRANSFER	0.000	8.000	8.000	Increase for transition Legacy programs from disestablishment of JLSC.
	3a. SUBTOTAL SOFTWARE DEVELOPMENT (>$500K)	0.000	9.800	9.800	
DN DS 0000	3b. SUBTOTAL SOFTWARE DEVELOPMENT (<$500K)	0.000	0.016	0.016	Increase for purchase of licenses for the Navy's Cash Model.
	3. GRAND TOTAL SOFTWARE DEVELOPMENT	0.000	9.816	9.816	
	GRAND TOTAL ADP CAPITAL PURCHASES PROGRAM	4.820	12.151	16.971	
	GRAND TOTAL CAPITAL PURCHASES PROGRAM	30.046	9.816	39.862	

DEPARTMENT OF THE NAVY - DEFENSE BUSINESS OPERATIONS FUND
DEPOT MAINTENANCE - AVIATION DEPOTS
CAPITAL BUDGET EXECUTION
(DOLLARS IN MILLIONS)
FY 1999

ITEM LINE #	ITEM DESCRIPTION	Original Request	Change	Revised Request	Explanation/Reason for Change
	1a. EQUIPMENT, OTHER THAN ADPE & TELECOM (>$500K)				
	Replacement				
6 DC 9 EL 0387 P R	DAATS TPS OFFLOAD	2.160	0.000	2.160	
6 DC 9 EL 0382 P R	HORIZONTAL JIG MILL	1.550	(1.550)	0.000	Requirement deferred to outyears.
6 DF 9 EL 0004 P R	AUTOMATED WATER JET COATING REMOVAL SYSTEM	0.000	0.750	0.750	Previously approved FY 98 project moved to FY 99.
6 DF 9 EL 0003 P R	HYDRAULICS SYSTEM REPLACEMENT	0.000	0.700	0.700	Emergent requirement, see Fund-9B.
6 DF 9 EL 0021 P R	K&T MODULINE 5-AXIS REBUILD	0.000	0.500	0.500	Previously approved FY 98 project moved to FY 99.
6 DE 9 EL 0259 P R	VERTICLE TURNING CENTER	0.000	1.360	1.360	Emergent requirement, see Fund-9B.
6 DE 9 EL 0263 P R	ULTRASONIC IMAGING SYSTEM	0.000	0.800	0.800	Emergent requirement, see Fund-9B.
6 DC 9 EL 0400 P R	HYDRAULIC TEST STATIONS	0.000	2.400	2.400	Workload from the F18, S3, and F14 programs makes it necessary to replace the 3 existing test stands in FY 1999. They are currently 20% beyond their anticipated useful life and are not expected to operate beyond FY 2000. See also the Fund-9B.
6 DE 9 EL 0267 P R	TF34 MFC TEST STAND UPGRADE PROJECT	0.000	0.703	0.703	Emergent requirement, see Fund-9B.
	New Mission				
DN EL 0000 N	CASS STATION EQUIPMENT	1.807	0.000	1.807	
	Environmental				
6 DF 9 EL 0004 P E	HVOF METAL SPRAY COATING SYSTEM	1.500	0.000	1.500	
6 DF 9 EL 0008 P E	AUTOMATED PAINT COATING SYSTEM	0.600	0.000	0.600	
6 DE 9 EL 0246 P E	FLASHJET PAINT STRIP	2.500	1.000	3.500	New cost reflects actual project in progress.
	SUBTOTAL EQUIPMENT, OTHER THAN ADPE & TELECOM (>$500K)	10.117	6.663	16.780	
DN ES 0000	**1b. EQUIPMENT, OTHER THAN ADPE & TELECOM (<$500K)**	3.855	0.092	3.947	
	2. GRAND TOTAL EQUIPMENT, OTHER THAN ADPE & TELECOM	13.972	6.755	20.727	
DN MC 0000	**3. MINOR CONSTRUCTION**	4.225	1.793	6.018	
	GRAND TOTAL NON-ADP CAPITAL PURCHASES PROGRAM	18.197	8.548	26.745	

DEPARTMENT OF THE NAVY - DEFENSE BUSINESS OPERATIONS FUND
DEPOT MAINTENANCE - AVIATION DEPOTS
CAPITAL BUDGET EXECUTION
(DOLLARS IN MILLIONS)
FY 1999

ITEM LINE #	ITEM DESCRIPTION	Original Request	Change	Revised Request	Explanation/Reason for Change
	1a. ADPE & TELECOMMUNICATIONS (>$500K) **Computer Hardware (Production)**				
6 DF 9 KL 0006 G R	NALCCOIS REPLACEMENTS	1.000	0.000	1.000	
6 DF 9 KL 0001 G R	LAN ENHANCEMENT	0.600	0.400	1.000	Revised estimate.
	SUBTOTAL ADPE & TELECOMMUNICATIONS (>$500K)	1.600	0.400	2.000	
DN KS 0000	**1b. ADPE & TELECOMMUNICATIONS (<$500K)**	0.550	0.775	1.325	
	2. GRAND TOTAL ADPE & TELECOMMUNICATIONS	2.150	1.175	3.325	
	3a. SOFTWARE DEVELOPMENT (>$500K)				
DF 9 DL 0000 G P	DIFMS/NIMMS OSE REEINGINEERING	0.000	0.927	0.927	Increase for recent Navy decision to move DIFMS to Open System Environment (OSE).
DN 9 DL 0JT1 G P	DEPOT MAINTENANCE SYSTEM (DMS) - JLSC TRANSFER	.000	12.700	12.700	Increase for transition programs from disestablishmen of JLSC.
DN 9 DL 0JT2 G P	CONFIGURATION MGMT INFO SYS (CMIS) - JLSC TRANSFER	.000	5.100	5.100	Increase for transition programs from disestablishmen of JLSC.
	3a. SUBTOTAL SOFTWARE DEVELOPMENT (>$500K)	0.000	18.727	18.727	
DN DS 000J	**3b. SUBTOTAL SOFTWARE DEVELOPMENT (<$500K)**	0.000	0.008	0.008	Increase for purchase of licenses for the Navy's Cash Model.
	3. GRAND TOTAL SOFTWARE DEVELOPMENT	0.000	18.735	18.735	
	GRAND TOTAL ADP CAPITAL PURCHASES PROGRAM	2.150	19.910	22.060	
	GRAND TOTAL CAPITAL PURCHASES PROGRAM	20.347	28.458	48.805	

FY 1999 PRESIDENT'S BUDGET
NAVY WORKING CAPITAL FUND
MARINE CORPS DEPOT MAINTENANCE

Activity Group Functions:

The mission of the Marine Corps Depot Maintenance Activity Group (MCDMAG) is to provide quality products and responsive maintenance support services in order to maintain a core industrial base in support of mobilization and surge requirements. The maintenance functions performed by the MCDMAG include repair, rebuild, modification, and Inspect and Repair Only as Necessary (IROAN) for all types of ground combat and combat support equipment. These services are used by the Marine Corps and various Department of Defense (DoD) activities under depot maintenance inter-service support agreements (DMISAs). Other functions include performance of related services such as preservation, testing, technical evaluation, calibration, and fabrication of automated test equipment.

Activity Group Composition:

The MCDMAG is comprised of two Maintenance centers. One is located at Albany, Georgia, and the other at Barstow, California. The Marine Corps Maintenance centers maintain virtually identical capabilities in order to provide support to Marine Corps operational units in their respective geographical areas.

Significant Changes in Activity Group:

The implementation of the Marine Corps Depot Maintenance Business Plan is continuing. In an effort to increase efficiencies, the Maintenance Centers have developed an operations plan. This plan focuses on improving operations in the immediate future. The main objectives outlined in the plan include:

1) Cultivate better relationships with current customers and seek new customers for the services provided by the Maintenance Centers.

2) Meet customer needs and expectations by delivering the quality of product specified in the customer's statement of work.

3) Perform customer requirements at or below cost estimates.

4) Reduce throughput cycle time while meeting customer schedules.

5) Review processes in order to ensure continuous process improvement.

6) Validate accuracy of internal controls

A significant tool that will enable the Maintenance Centers to achieve the objectives of the Operations Plan will be the implementation of Manufacturing Resources Planning (MRP II), scheduled for first quarter FY 1998. This system will provide shop floor control to include routes and processes, inventory tracking , and tracking of Repair Cycle Time, all of which are manual efforts at this time. The process will begin with the Assault Amphibious Vehicle (AAV) line followed by other lines such as the Light Armored vehicle (LAV), High Mobility Multi-purpose Wheeled Vehicle (HMMWV), 5-ton truck, etc.

Beginning in FY 1997, the NAVAIR Industrial Financial Management System (NIFMS) and the Navy Industrial Material Management System (NIMMS) replaced portions of the Depot Maintenance Management System (DMMS). The new systems will provide the capability to track costs at lower levels.

Unit Costs:

	FY 1997	FY 1998	FY 1999
Per Direct Labor Hour	$74.64	$68.53	$74.18

The unit cost rate declines between FY 97 and FY 98 due to changes in projected workload and costs. The FY 1999 reduction in funded workload combined with normal price growth and inflation leads to a decline in direct labor hours (22.2%) and a 8.2% increase in unit cost.

Financial Profile:

	(Dollars in Millions)		
	FY 1997	FY 1998	FY 1999
Revenue	$160.2	$180.4	$147.6
Cost of Goods Sold	$148.9	$169.9	$143.0
Operating Results	$ 11.3	$ 10.5	$ 4.6
Cash/JLSC Surcharge	$ (1.2)	$ (9.6)	$ (3.8)
Extraordinary Expense	$ (5.0)	$ 0.0	$ 0.0
Prior Year Adjustment	$ 1.7	$ 0.0	$ 0.0
Accumulated Operating Results	$ (1.7)	$ (.8)	$ 0.0

Revenue:

Implementation of the NAVAIR Industrial Financial Management System (NIFMS) and its impact on the methodology used to recognize revenue for fixed price orders resulted in lower FY 1997 revenue than was originally budgeted. Procedures to recognize fixed price orders on an incremental basis are expected to be in place for FY 1998. The decline in revenue between FY 1998 and FY 1999 is

primarily due to an overall decline in Marine Corps funding associated with depot level maintenance.

Cost of Goods Sold:

The cost of goods sold profile is similar to that of revenue. NIFMS implementation caused FY 1997 actual costs to be lower than expected. The FY 1998 / FY 1999 decline (-16%) is primarily related to a decline in Marine Corps funding associated with depot maintenance.

Overhead Rate:

FY 1997	FY 1998	FY 1999
42%	37%	40%

As a result of the Maintenance centers' continuous efforts to reduce overhead cost, there is a decrease in the ratio of overhead to total cost in FY 98. The slight increase in FY 99 is due to the decline in workload.

Funding

	(Dollars in Millions)		
	FY 1997	FY 1998	FY 1999
Reimbursable Orders	$200.1	$166.5	$143.8
Direct Cite Funds	0	0	0
Total New Orders	$200.1	$166.5	$143.8

New orders for FY 1997 were above budgeted estimates as a result of receipt of unplanned workload. Historically, the Maintenance Centers execute more workload than is reflected in initial customer funding estimates.

FY 1998 and FY 1999 new orders profiles are based on funding reflected in customer budgets.

FY 1999 funding level declines from FY 1998. This is primarily due to an overall decline in Marine Corps funding available to the depot maintenance program.

Workload:

	(Thousands)		
	FY 1997	FY 1998	FY 1999
Direct Labor Hours (DLHs)	2,424	2,473	1,924

The DLHs profile reflects a decline in customer funding levels from FY 1998 through FY 1999. This decline includes a decrease in Full-time Equivalents (FTEs) and overtime.

Staffing:

	FY 1997	FY 1998	FY 1999
Civilian End Strength	1,828	1,798	1,537
Civilian Work Years	1,930	1,798	1,537
Military End Strength	20	20	20
Military Work Years	19	19	19

Staffing levels are directly related to the projected funding level. New orders are decreasing in the budget years, therefore, end strength is also decreasing. This reduction will be achieved through attrition and the reduction of temporary employees.

Performance Indicators:

	FY 1997	FY 1998	FY 1999
Schedule Conformance	99.0%	99.5%	99.5%
Quality Deficiency Reports	.2%	.2%	.2%
Inventory Turnover Ratio	9.0:1	10.9:1	14.7:1

Customer Rates Changes:

	FY 1997	FY 1998	FY 1999
Stabilized Customer Rate	$77.31	$73.09	$77.72
Change from Prior Year Stabilized Rate	+11.1%	-5.5%	+6.3%

Headquarters Cost:

	(Dollars in Millions)		
	FY 1997	FY 1998	FY 1999
Cost of Management Headquarters	$1.2	$1.3	$1.3

Headquarters (G3 Maintenance Division, Albany, Georgia) costs remain stable between FY 1997 and FY 1999. As implementation of the Marine Corps Depot Maintenance Business plan continues, the Marine Corps will review costs in this area and implement efficiencies where feasible.

Capital Budget Authority:

	(Dollars in Millions)		
	FY 1997	FY 1998	FY 1999
Equipment-Non ADPE/TELECOM	$1.8	$1.5	$2.1
ADPE/TELECOM Equipment	0.9	0.0	0.0
Software Development	0.0	0.7	1.8
Minor Construction	1.6	2.1	1.3
TOTAL	$4.3	$4.3	$5.2

Economies and Efficiencies:

The implementation of the Manufacturing Resources Planning (MRP II) system will give the Maintenance Centers an automated system to track the entire repair, rebuild, or IROAN of an end item. This system will track project cost, schedule all shops, track end item and parts routes, inventory purchases, repair cycle times and many more processes that take place throughout the maintenance cycle of an asset inducted into the Maintenance Centers.

NAVY WORKING CAPITAL FUND
REVENUE AND EXPENSE
AMOUNT IN MILLIONS
MARINE CORPS DEPOT MAINTENANCE

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	155.1	167.0	140.0
Surcharges	1.3	9.6	3.8
Depreciation Excl Major Construction	3.8	3.9	3.8
Other Income			
Total Income	160.2	180.4	147.6
Expenses			
Cost of Material Sold From Inventory			
Salaries and Wages			
Military Personnel	0.6	1.1	1.1
Civilian Personnel	100.9	95.8	80.1
Travel and Transportation of Personnel	1.0	0.7	0.7
Material & Supplies (Internal Operations)	46.4	43.5	34.6
Equipment	2.1	1.2	1.1
Other Purchases from NWCF	3.2	3.6	3.7
Transportation of Things	0.0	0.0	0.0
Depreciation - Capital	3.8	3.9	3.8
Printing and Reproduction	0.1	0.1	0.1
Advisory and Assistance Services	1.3	0.0	0.0
Rent, Communication & Utilities	4.5	5.0	4.8
Other Purchased Services	17.1	14.5	12.7
Total Expenses	180.9	169.4	142.7
Work in Process Adjustment	(32.0)	0.5	0.3
Comp Work for Activity Retention Adjustment	(0.0)	0.0	0.0
Cost of Goods Sold	148.9	169.9	143.0
Operating Result	11.3	10.5	4.6
Less Surcharges	(1.2)	(9.6)	(3.8)
Plus Appropriations Affecting NOR / AOR	0.0	0.0	0.0
Other Changes Affecting NOR / AOR	(5.0)	0.0	0.0
Net Operating Result	5.0	0.9	0.8
Other Changes Affecting AOR	1.7	0.0	0.0
Accumulated Operating Result	(1.7)	(0.8)	0.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
MCIF / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	200.1	166.5	143.8
a. Orders from DoD Components	186.3	154.4	124.7
Department of the Navy	180.4	153.9	120.0
O & M, Navy	.3	.3	.4
O & M, Marine Corps	158.0	140.0	77.9
O & M, Navy Reserve	.0	.0	.0
O & M, Marine Corp Reserve	.8	2.5	2.8
Aircraft Porcurement, Navy	.0	.0	.0
Weapons Procurement, Navy	.0	.0	.0
Ammunition Procurement, Navy/MC	.0	.0	.0
Shipbuilding & Conversion, Navy	.0	.0	.0
Other Procurement, Navy	.0	.0	.0
Procurement, Marine Corps	18.1	10.6	38.3
Family Housing, Navy/MC	.0	.0	.0
Research, Dev., Test, & Eval., Navy	.3	.5	.5
Military Construction, Navy	.0	.0	.0
Other Navy Appropriations	2.9	.0	.0
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	3.8	.0	.0
Army Operation & Maintenence	.0	.0	.0
Army Res, Dev, Test, Eval	.0	.0	.0
Army Procurement	.0	.0	.0
Army Other	3.8	.0	.0
Department of the Air Force	.0	.0	.0
Air Force Operation & Maintenence	.0	.0	.0
Air Force Res, Dev, Test, Eval	.0	.0	.0
Air Force Procurement	.0	.0	.0
Air Force Other	.0	.0	.0
DOD Appropriation Accounts	2.0	.5	4.7
Base Closure & Realignment	.0	.0	.0
Operation & Maintence Accounts	.0	.0	.0
Res, Dev, Test & Eval Accounts	.0	.5	.7
Procurement Accounts	.0	.0	.0
DOD Other	2.0	.0	4.0
b. Orders from NWCF Business Area	13.3	10.9	15.5
c. Total DoD	199.6	165.3	140.2
d. Other Orders	.5	1.1	3.5
Other Federal Agencies	.5	.6	2.9
Foreign Military Sales	.0	.5	.7
Non Federal Agencies	.0	.0	.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
MCIF / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	47.4	87.4	73.4
3. Total Gross Orders	247.5	253.8	217.2
4. Funded Carry-Over **	87.4	73.4	69.6
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	160.2	180.4	147.6

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

CHANGES IN THE COSTS OF OPERATION
NAVY WORKING CAPTIAL FUND
Marine Corps Depot Maintenance
FY 1999 PRESIDENT'S BUDGET SUBMISSION

(Dollars in Millions)

	EXPENSES
FY 1997 Actual:	180.903
FY 1998 Estimate in President's Budget:	150.235
Pricing Adjustments:	
Civilian Personnel	0.548
Material & Supplies	-0.069
Other Price Changes	-0.211
Program Changes:	
Civilian Personnel	11.144
Material & Supplies	7.327
Travel and Transportation of Personnel	0.440
Rent, Communications & Utilities	0.980
Depreciation	-0.036
Other Purchases	-0.922
FY 1998 Current Estimate:	169.436
Pricing Adjustments:	
FY 1999 Pay Raise	
Civilian Personnel	1.862
Military Personnel	0.025
Annualization of Prior Year Pay Raise	0.679
Other Price Changes	
Material & Supplies	0.033
Utilities, Rent, & Communications	0.081
Intra Fund Purchases	0.133
Other Purchases	0.238
Productivity Initiatives and Other Efficiencies:	
Capital Purchase Program Savings	-0.703
Program Changes:	
Civilian Personnel	-18.240
Military Personnel	-0.072
Material & Supplies	-9.112
Travel and Transportation of Personnel	-0.041
Rent, Communications & Utilities	-0.351
Depreciation	-0.013
Other Purchases	-1.248
FY 1999 Current Estimate	142.707

NAVY WORKING CAPITAL FUND
Marine Corps Depot Maintenance
MATERIAL INVENTORY DATA
(Dollars in Millions)
Fiscal Year 1997

			----------Peacetime----------	
	Total	**Mobilization**	**Operating**	**Other**
Material Inventory BOP*	12.8	0.0	12.8	0.0
Purchases				
A. Purchases to Support Customer Orders	50.8	0.0	50.8	0.0
B. Purchases of long lead times in advance of customer orders (+)	0.0	0.0	0.0	0.0
C. Other Purchases (list) (+)				
Materials & Supplies	0	0.0	0.0	0.0
D. Total Purchases	50.8	0.0	50.8	0.0
Material Inventory Adjustment				
A. Material Used in Maintenance (and billed/charged to customer orders) (-)	43.5	0.0	43.5	0.0
B. Disposals, theft, losses due to damage (-)*	0.0	0.0	0.0	0.0
C. Other reductions (list) (-)	0.0	0.0	0.0	0.0
D. Total inventory adjustment	43.5	0.0	43.5	0.0
Material Inventory EOP*	20.1	0.0	20.1	0.0

*Inventory (DBC 1400) less Work In Process (DBC 1414)

NAVY WORKING CAPITAL FUND
Marine Corps Depot Maintenance
MATERIAL INVENTORY DATA
(Dollars in Millions)
Fiscal Year 1998

			Peacetime	
	Total	**Mobilization**	**Operating**	**Other**
Material Inventory BOP*	20.1	0.0	20.1	0.0
Purchases				
A. Purchases to Support Customer Orders	29.2	0.0	29.2	0.0
B. Purchases of long lead times in advance of customer orders (+)	0.0	0.0	0.0	0.0
C. Other Purchases (list) (+)				
Materials & Supplies	0	0.0	0.0	0.0
D. Total Purchases	29.2	0.0	29.2	0.0
Material Inventory Adjustment				
A. Material Used in Maintenance (and billed/charged to customer orders) (-)	38.4	0.0	38.4	0.0
B. Disposals, theft, losses due to damage (-)*	0.0	0.0	0.0	0.0
C. Other reductions (list) (-)	0.0	0.0	0.0	0.0
D. Total inventory adjustment	38.4	0.0	38.4	0.0
Material Inventory EOP*	10.9	0.0	10.9	0.0

*Inventory (DBC 1400) less Work In Process (DBC 1414)

NAVY WORKING CAPITAL FUND
Marine Corps Depot Maintenance
MATERIAL INVENTORY DATA
(Dollars in Millions)
Fiscal Year 1999

			----------Peacetime----------	
	Total	**Mobilization**	**Operating**	**Other**
Material Inventory BOP*	10.9	0.0	10.9	0.0
Purchases				
A. Purchases to Support Customer Orders	27.4	0.0	27.4	0.0
B. Purchases of long lead times in advance of customer orders (+)	0.0	0.0	0.0	0.0
C. Other Purchases (list) (+)				
Materials & Supplies	0.0	0.0	0.0	0.0
D. Total Purchases	27.4	0.0	27.4	0.0
Material Inventory Adjustment				
A. Material Used in Maintenance (and billed/charged to customer orders) (-)	29.7	0.0	29.7	0.0
B. Disposals, theft, losses due to damage (-)*	0.0	0.0	0.0	0.0
C. Other reductions (list) (-)	0.0	0.0	0.0	0.0
D. Total inventory adjustment	29.7	0.0	29.7	0.0
Material Inventory EOP*	8.6	0.0	8.6	0.0

*Inventory (DBC 1400) less Work In Process (DBC 1414)

WORKING CAPITAL FUND INVESTMENT SUMMARY
Marine Corps Depot Maintenance
FY 1999 Presidents Budget
February 1998

Dollars in Millions

Line Number	Item Description	FY 1997 Actuals Quantity	FY 1997 Actuals Total Cost	FY 1998 Estimate Quantity	FY 1998 Estimate Total Cost	FY 1999 Estimate Quantity	FY 1999 Estimate Total Cost
	Equipment >500K						
1	Replacement	0	0.000	0	0.000	0	0.000
2	Productivity	0	0.000	0	0.000	0	0.000
3	New Mission	0	0.000	0	0.000	0	0.000
4	Environmental Compliance	1	0.716	0	0.000	0	0.000
	Subtotal	1	0.716	0	0.000	0	0.000
	Equipment >100K<500K						
5	Replacement	4	1.089	7	0.973	6	1.282
6	Productivity	0	0.000	2	0.509	3	0.602
7	New Mission	0	0.000	0	0.000	1	0.200
8	Environmental Compliance	0	0.000	0	0.000	0	0.000
	Subtotal	4	1.089	9	1.482	10	2.084
	ADPE & Telecom >500K						
9	Computer Hardware (Production)	1	0.910	0	0.000	0	0.000
10	Computer Software (Operating Sys)	0	0.000	0	0.000	0	0.000
11	Telecommunications	0	0.000	0	0.000	0	0.000
12	Other Communications	0	0.000	0	0.000	0	0.000
	Subtotal	1	0.910	0	0.000	0	0.000
	ADPE & Telecom >100K<500K						
13	Computer Hardware (Production)	0	0.000	0	0.000	0	0.000
14	Computer Software (Operating Sys)	0	0.000	0	0.000	0	0.000
15	Telecommunications	0	0.000	0	0.000	0	0.000
16	Other Communications	0	0.000	0	0.000	0	0.000
	Subtotal	0	0.000	0	0.000	0	0.000
17	Minor Construction >500K	0	0.000	0	0.000	0	0.000
18	Minor Construction >100K<500K	8	1.606	10	2.103	6	1.322
19	Software >500K	0	0.000	0	0.000	0	0.000
20	Software >100K <500K	0	0.000	3	0.699	2	1.802
	TOTAL	14	4.321	22	4.284	18	5.208

MARINE CORPS CAPITAL INVESTMENT JUSTIFICATION ($ in Millions)							A. FY99 Presidents Budget Submission		
B. Navy Working Capital Fund Marine Corps Depot Maintenance		C. Line No. 5, 6, 7					D. Equipment Purchases >100K <500K		
	FY1997Actuals			FY1998 Estimate			FY1999 Estimate		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
FY98				9		1482			
Automated Power Sensor									
8FT CNC Shear									
AN/VVS-2 Test Equipment									
Vacuum System									
Auto Power System Cal System									
Towed Chassis Dyno, 200									
CNC Punch Press									
HP7000 Microwave Signal Analyzer									
BaseBand Signal Analyzer									

Narrative Justification:

FY98/99 equipment purchases play a vital role in the MC3's ability to harness technology and procure labor saving devices which more efficiently and effectively utilize personnel resources and will enhance capabilities to sustain our mission, meet workload requirements.

1. The Automated Power Sensor and Auto Power Cal System are required to provide lower cost calibration of Power Sensors with a high degree of accuracy a faster turn around time for calibration of sensors for customers. This system will provide increased capability therefore making our services more attractive in obtaining additional workload. Economic Analysis not available at this time.

2. The 8FT CNC Shear will replace a 20 year old conventional shear. The existing Shear is unreliable, not parts supportable, and will not hold tolerances required for metal shearing of parts for equipment repair. The new Shear will enhance the Sheetmetal Shops capability to sustain and meet its mission goal.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $ .195 with a Net Present Value (NPV) of $.142 and an inflated Benefit of $.230.

3. The AN/VVS-2 Test Equipment will replace the present machine with a newer version. It will be used to test driver optical sight with night vision for the M1A1 Abrams Main Battle Tank, Amphibious Assault Vehicle (AAV), and Light Armored Vehicles (LAV), and Marine Corps combat equipment for the FMF.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $.195 with a Net Present Value (NPV) of $.142 and an inflated Benefit of $.230.

4. The Vacuum System will be used to collect sanding dust out of the air as the equipment is being prepped, reducing the need for breathing air hoods and additional air compressors to meet mandated OSHA and industrial hygienist regulations. Paint dust will also be collected and drummed for disposal.

An Exemption Justification Statment was prepared for this project.

5. AutoPower Cal System is required to provide lower cost calibration of Power Sensors with a higher degree of accuracy. This System will provide quicker turn around time for calibration of sensors for MC customers.

6. The Towed Chassis Dyno 200 will be used to support the need for vehicles processed on various programs to be tested to prevent unnecessary disassembly and over processing of serviceable components. The Dyno will be used on test vehicles prior to maintenance cycles to determine extent of repairs required in order to ensure a quality product is obtained.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $.188 with a Net Present Value (NPV) of $.121 and an inflated Benefit of $.227.

7. The CNC Punch Press will replace older equipment and improve the Sheetmetal Shops' capacity to produce more items requiring punch procedures in less time with greater accuracy, and provide additional capability to provide metal fabricated items that are beyond current capabilities.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $.869 with a Net Present Value (NPV) of $.560 and an inflated Benefit of $1.0.

8. The HP7000 Microwave Signal Analyzer will allow testing of components to be conducted in-house instead of by contract.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $2.7 with a Net Present Value (NPV) of $1.7 and an inflated Benefit of $3.3.

9. Base Band Signal Analyzer will replace existing obsolete systems and improve efficiency resulting inless man-hours per operation and quicker throu-put for items requiring calibration. The system will increase measurement capability by providing a more accurate and precise calibration for customer components.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $.289 with a Net Present Value (NPV) of $.186 and an inflated Benefit of $.348.

MARINE CORPS CAPITAL INVESTMENT JUSTIFICATION ($ in Millions)		A. FY99 Presidents Budget Submission
B. Navy Working Capital Fund Marine Corps Depot Maintenance	C. Line No. 5, 6, 7	D. Equipment Purchases >100K <500K

	FY1997 Actuals			FY1998 Estimate			FY1999 Estimate		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
FY99							10		2.084
Vapor Degreaser									
Electric Drive through Curing Oven									
HP7000 Microwave Signal Analyzer									
VMC-6030 HT Boxway Vertical Machine									
Thermal Radiometer Imager System									
CNC Lathe									
Conventional Engine Lathe									
RotoBlast Machine									
FlowTester XL400									
Fall Protection Equipment									

Narrative Justification:

FY99 equipment purchases play a vital role in the Maintenance Centers ability to harness technology and procure labor saving devices which more efficiently and effectively utilize personnel resources and will enhance capabilities to sustain our mission and meet workload requirements.

1. The Vapor Degreaser is planned to replace the current system that uses ozone depleting chlorocarbons. Chlorocarbons have been phased out by the Clean Air Act signed by the President in 1992 under Executive Order (EO) 12843, Section 326 of the National Defense Authorization Act for FY93 (PL.102-484 applies). Phase out of chlorocarbons began 1 Jan 96 and only allowed current on-hand stock to be used until depleted (MC Bulletin 5090 applies).

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $3.2 with a Net Present Value (NPV) of $2.1 and an inflated Benefit of $3.9.

2. The Electric Drive through Curing Oven will take less time to dry CARC coated painted vehicles, provide better emission control, and complies with OSHA and EPA standards. The present oven has a limited recirculating system and requires longer cycle/drying times resulting in excessive fuel costs and down-time resutling in production delays.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $3.2 with a Net Present Value (NPV) of $2.1 and an inflated Benefit of $3.9.

3. The HP7000 Microwave Signal Analyzer will allow more exact testing of the AN/TPS 59 Search and Surveillance Radar, only long range radar in the Marine Corps inventory, which has undergone developmental changes. The modifications to the radar to a V-3 version, vice V-1, requires more exacting and precision measurements for performance specifications which include rise and fall times in PICA-seconds, magnitude and phase settling times, peak and average power, and group delays.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $.2 with a Net Present Value (NPV) of $.129 and a total benefit of $.242.

4. The VMC-6030 HT Boxway Vertical Machine will modernize the Machine Shop capabilities. This project will be used in the manufacture and repair of various components, i.e. M198 towed Howitzer, Hawk Radar, Missile Components, AAV's HMMWVS, and M1A1. The machine will modernize the process and increase working efficiency by reducing setup time approximately 50% and reducing the amount of rework and production delays.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $.390 with a Net Present Value (NPV) of $.251 and a total benefit of $.469.

5. The Thermal Radiometer will provide calibration capability for Marine Corps thermal night sight test collimators. Due to increased complexity of next generation night vision sights, improved calibration requirements of infrared testing will increase present capabilities. The present method of thermal calibration causes damage to the source coating and prevents visibility of losses in the collimator optical component. The Thermal Radiometer system will enable MCDM to keep up with rapidly changing technology in infared systems.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $.560 with a Net Present Value (NPV) of $.361 and a total benefit of $.674.

6. The CNC Lathe and Conventional Engine Lathe will replace thirty year old equipment and will enhance the Machine Shop production capabilities accuracy. The CNC Lathe, with computerized numerical control, will provide greater production capability, greater tolerance, and increased quality. The new Conventional Lathe will reduce setup time, increase production, and provide savings in maintenance costs due to quality while maintaining tolerance requirements.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $.580 with a Net Present Value (NPV) of $.480 and a total benefit of $.644.

7. The Rotoblast Machine will provide improved blasting capability in the Cleaning Shop to blast clean components used on the AAVP&, trucks, LAVs, M88s, engineering equipment, and various other vehicles, equipment, and miscellaneous components as needed. The present machine is worn and has several loose plates, components, and assemblies which have become sources of grit and dust spills warranting continuous repair. The present machine is approximately 20 years old and parts are no longer supplied by the manufacturer. The machine will elimnate environmental hazards and improve blasting capabilities.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $.275 with a Net Present Value (NPV) of $.198 and a total benefit of $.324.

8. The Flow Tester will be utilized by Special Projects Business Center to provide support to the Calibration & Repair for the Fleet Marine Force. It will replace an old system which can not perform all the functional testing & calibrations at the flow rate & pressures required.

An Economic Analysis was prepared. The Operations cost for purchasing this equipment vs Status Quo results in a Benefit of $..258 with a Net Present Value (NPV) of $..224 and a total benefit of $.279.

9. The Fall Prevention System is a mandated project required by OSHA 29 CFR 1910.23(C) to protect personnel from injury due to falls while working above heights of four feet or greater on equipment being repaired or rebuilt in the Maintenance Center. An Exemption Justification Statement was prepared for this project.

MARINE CORPS CAPITAL INVESTMENT JUSTIFICATION ($ in Millions)							A. FY99 Presidents Budget Submission		
B. Navy Working Capital Fund Marine Corps Depot Maintenance		C. Line No. 18					D. Minor Construction>100K<500K		
	FY1997 Actuals			FY1998 Estimate			FY1999 Estimate		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
FY98 Laser Punch Press Facility, QLB Dining Facility Concrete Pad, Construct Radiac Area Fire Bottle Station, Fiber Glass Repair Facility VOC Control Area, POL Building, Paint Chain Conveyor, Storage Bldg for 740				10		2.103			

Narrative Justification:

FY 98

The following projects are necessary to meet security, safety, and environmental requirements.

1. Laser Punch Press Facility is to support new a new laser cutting machine and a punch press
A cost comparison and narrative justification was prepared. Comparison indicates an annual savings of $35,242 for the Alternative vice Status Quo

2. QLB Dining Facility will replace substandard dining accomodations and will be able to provide hot food in cleaner environment, therefore providing improved working conditions and increase employee morale.

3. Concrete Pad addition will prevent oil, water, and hydraulic leaks from dripping on the desert floor; it will stop desert sand from being picked up and carried inside the equipment and causing the build up of sand drift.
A cost comparison and narrative justification was prepared. Comparison indicates an annual savings of $94,278 for the Alternative vice Status Quo

4. Radiac Area Addition will increase square footage of shop and storage to meet current workload involving repair and calibration of radioactive devices.
Current workspace is inadequate to meet current workload.

5. Fire Bottle Station will consolidate the cleaning, testing, and storing of Fire Bottles for Combat Vehicles in one location. This facility will provide security for customer equipment and consolidate the process into one location.
A cost comparison and narrative justification was prepared. Comparison indicates an annual savings of $12,260for the Alternative vice Status Quo

6. Fiberglass Repair Facility will replace the current inadequate, substandard facility which will provide increased space, be structurally sound, and correct present safety deficiencies.
This facility will increase efficiency, productivity, and safety.

7. The VOC Control Area will provide a new paint facility that meets current emissions control equipment and provide a safer work environment for employees.

8. 'The POL Building will be used to store hazardous materials to meet EPA hazardous material storage regulations and provide containment . An Exemption Justification Statement was prepared for this project.

9. Paint Chain Conveyor will allow more and larger components to be painted in assembly fashion for improved productivity, safety, & quality.
A cost comparison and narrative justification was prepared. Comparison indicates an annual savings of $20,815 for the Alternative vice Status Quo

10. The Storage Building for 740 will provide storage area for blasting materials and supplies to support the Maintenance Centers Blast Cleaning Booths.

MARINE CORPS CAPITAL INVESTMENT JUSTIFICATION ($ in Millions)							A. FY99 Presidents Budget Submission		
B. Navy Working Capital Fund Marine Corps Depot Maintenance			C. Line No. 18			D. Minor Construction>100K<500K			
	FY1997 Actuals			FY1998 Estimate			FY1999 Estimate		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
FY99							6		1.322
Relocate LAV Test Stand									
Hardstand Storage/Production Area									
Mezzanine Break Area									
Radiac Area Addition									
Maintenance Facility									
Storage Building for BC 720									

Narrative Justification:

FY99

The following projects are vital to our continuing effort to provide a more efficient and safe workplace:

1. The LAV Test Stand Facility will be a dedicated area for testing hydraulic components, provide hi-level noice protection for workers; provide a controlled temperature and dust free atmosphere for hydraulic components being tested. Currently employees are exposed to hi level noice and hydraulic components are exposed to a dusty environment. A cost comparison and narrative justification was prepared. Comparison indicates an annual savings of $1,227 for the Alternative vice Status Quo

2. Hardstand Storage/Production Area will provide additional concrete stands to prevent leaks and drifts from stored vehicles. A cost comparison and narrative justification was prepared. Comparison indicates an annual savings of $318,728 for the Alternative vice Status Quo

3. Mezzanine Break Area - will provide a clean environment for lunch breaks and provide an area for Safety and TQL meetings. A cost comparison and narrative justification was prepared. Comparison indicates an annual savings of $9,331 for the Alternative vice Status Quo

4. Radiac Area Addition will increase square footage of shop and storage to meet current workload involving repair and calibration of radioactive devices. Current workspace is inadequate to meet current workload.

5. The Maintenance Facility will provide increase storage capacity for equipment and supplies in order to provide a faster response and repair time for a wide variedty of production machinery. A cost comparison and narrative justification was prepared. Comparison indicates an annual savings of $11,034 for the Alternative vice Status Quo

6. The Storage Building will provide a facility for incoming jobs and supplies, thereby freeing up valuable production areas being used for parts and material storage. An Economic Analysis was prepared. The operations cost for construction of this facility vs Status Quo results in a benefit of $.593 with a Net Present Value (NPV) of $.266 and a total benefit of $.886.

Activity Group Capital Investment Justification
Department of the Navy
Activity Group: Marine Corps Depot Maintenance
Sub_Activity Group: _Marine Corps Depot Maintenance
Budget Submission Identification: FY 1999 President's Budget

(Dollars in Thousands)

C. Line No. & Item Description													D. Sub-Activity Identification
	FY 1996			FY 1997			FY 1998			FY 1999			
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
			0			0			0			0	
DIFMS/NIMMS/T&A Reengineering			0			0	1	187	187	1	96	96	
			0			0			0			0	
			0			0			0			0	

Narrative Justification:

The NAVAIR Industrial Financial Management System (NIFMS) is the Department of the Navy's Depot Maintenance and Research and Development (R&D) Navy Working Capital Fund (NWCF) interim migratory accounting system. It was recommended by the Defense Working Capital Fund (DWCF) Policy Board, formerly the Defense Business Operations Fund (DBOF) Corporate Board, and selected by the Under Secretary of Defense (Comptroller). This system was selected to support the Department of Defense initiative to reduce the total number of accounting systems. Additionally, the Department of the Air Force has selected NIFMS as their accounting system for the Air Logistic Centers. The Defense Finance and Accounting Service (DFAS) will change the name from NIFMS upon transfer of ownership to DFAS from the Navy. The new system name will be the Defense Industrial Financial Management System (DIFMS).

The current version of DIFMS is a ten year old DMS-1100 hierarchical data base management application hosted on UNISYS mainframe computers at the Defense Megacenters. The reengineering of DIFMS to a relational database technology, using modern programming language in a client-server architecture, will reduce software coding by 30 percent, which will simplify future system changes. This will reduce maintenance costs, improve system flexibility, improve data accessibility, enhance ad hoc reporting capability, increase system performance, consolidate systems, add increased functionality/capabilities, and improve overall reliability. Additionally, the reengineered DIFMS will maximize user-friendliness, as well as functionality/capabilities across multi-vendor platforms.

DFAS, Air Force, and Navy have agreed to share the cost of reengineering DIFMS equally. The NAVAIR Industrial Material Management System (NIMMS) and the DIFMS Time and Attendance module will also be reengineered due to the integration of both of these modules within DIFMS. This request contains only the Navy's portion of the DIFMS, NIMMS, and DIFMS T&A reengineering efforts.

MARINE CORPS CAPITAL INVESTMENT JUSTIFICATION
($ in Millions)

A. FY99 Presidents Budget Submission

B. Navy Working Capital Fund
Marine Corps Depot Maintenance

C. Line 19

D. Software>100K < 500K

Element of Cost	FY1997 Actuals			FY1998 Estimate			FY1999 Estimate		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
FY98									
Cash Model License, Legacy Sys				2		0.512			
FY99									
Depot Maintenance Interfaces							2		1.706

NARRATIVE JUSTIFICATION:

FY98
Cash Model License - This expenditure is for the purchase of a centrally procured cash projection model for use by all NWCF activities.
Legacy System implementation.

FY 99
Cash Model License - This expenditure is for the purchase of a centrally procured cash projection model for use by all NWCF activities.
Depot Maintenance Interfaces.

Navy Working Capital Fund
Marine Corps Depot Maintenance
FY 1998
FY 1999 President's Budget

PROJECTS IN THE FY 1999 PRESIDENT'S BUDGET

(Dollars in Millions)

FY	Approved Project	Approved Proj Cost	Reprogs	Approved Proj Cost	Current Proj Cost	Asset/ Deficiency	Explanation
1998	**Equipment except ADPE and TELECOM**						
	Towed Chassis Dynamometer	0.118	0.000	0.118	0.118	0.000	
	HP7000 Microwave Signal Analyzer	0.132	0.000	0.132	0.132	0.000	
	Baseband Signal Analyzer	0.105	0.000	0.105	0.105	0.000	
	Automated Power Sensor	0.125	0.000	0.125	0.125	0.000	
	8 FT CNC Shear	0.100	0.000	0.100	0.100	0.000	
	AN/VVS-2 Test Equipment	0.100	0.000	0.100	0.100	0.000	
	Vacuum System	0.300	0.000	0.300	0.300	0.000	
	Auto Power Sensor Cal System	0.125	0.000	0.125	0.125	0.000	
	CNC Punch Press	0.377	0.000	0.377	0.377	0.000	
	Subtotal Equipment	**1.482**	**0.000**	**1.482**	**1.482**	**0.000**	
	Equipment - ADPE and TELECOM						
	Subtotal ADPE/TelCom	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
	Software Development						
	Cash Model License	0.000	0.012	0.012	0.012	0.000	Software license
	Legacy Systems	0.000	0.500	0.500	0.500	0.000	Legacy requirements (JLSC)
	DIFMS	0.000	0.187	0.187	0.187	0.000	Emergent DIFMS requirements
	Subtotal Software	**0.000**	**0.699**	**0.699**	**0.699**	**0.000**	
	Minor Construction						
	Laser Punch Press	0.200	0.000	0.200	0.200	0.000	
	QLB Dining Facility	0.297	0.000	0.297	0.297	0.000	
	Concrete Pad behind MHE lot	0.108	0.000	0.108	0.108	0.000	
	Radiac Area	0.297	0.000	0.297	0.297	0.000	
	Fire Bottle Station	0.205	0.000	0.205	0.205	0.000	
	Fiber Glass Repair Facility	0.216	0.000	0.216	0.216	0.000	
	VOC Control Area	0.130	0.000	0.130	0.130	0.000	
	POL Building	0.250	0.000	0.250	0.250	0.000	
	Paint Chain Conveyor	0.150	0.000	0.150	0.150	0.000	
	STG Building for 740	0.250	0.000	0.250	0.250	0.000	
	Subtotal Minor Construction	**2.103**	**0.000**	**2.103**	**2.103**	**0.000**	
	Total FY 1998	**3.585**	**0.699**	**4.284**	**4.284**	**0.000**	

Navy Working Capital Fund
Marine Corps Depot Maintenance
FY 1999
FY 1999 President's Budget

PROJECTS IN THE FY 1999 PRESIDENT'S BUDGET

(Dollars in Millions)

FY	Approved Project	Approved Proj Cost	Reprogs	Approved Proj Cost	Current Proj Cost	Asset/ Deficiency	Explanation
1999	**Equipment except ADPE and TELECOM**						
	Vapor Degreasor	0.322	0.000	0.322	0.322	0.000	
	VMC-6030HT Boxway Vertical Machine Cer	0.120	0.000	0.120	0.120	0.000	
	Thermal Radiometer	0.110	0.000	0.110	0.110	0.000	
	HP7000 Microwave Signal Analyzer	0.000	0.132	0.132	0.132	0.000	Emergent Requirement
	CNC Lathe	0.000	0.400	0.400	0.400	0.000	Emergent Requirement
	Conventional Engine Lathe	0.000	0.125	0.125	0.125	0.000	Emergent Requirement
	Rotoblast Machine	0.175	0.000	0.175	0.175	0.000	
	Flowtester	0.150	0.000	0.150	0.150	0.000	
	Fall Protection	0.000	0.200	0.200	0.200	0.000	Emergent Requirement
	Electro Drive thru Curing Oven	0.000	0.350	0.350	0.350	0.000	Emergent Requirement
	Lathe	0.100	-0.100	0.000	0.000	0.000	Cancelled due to higher priority
	Automated Calibration System	0.102	-0.102	0.000	0.000	0.000	Cancelled due to higher priority
	Network Analyxer	0.305	-0.305	0.000	0.000	0.000	Cancelled due to higher priority
	Subtotal Equipment	**1.384**	**0.700**	**2.084**	**2.084**	**0.000**	
	Equipment - ADPE and TELECOM						
	Subtotal Equipment-ADPE & Telecom	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
	Software Development						
	Cash Management Model	0.000	0.006	0.006	0.006	0.000	
	Depot Maintenance Interface	0.000	1.700	1.700	1.700	0.000	
	DIFMS	0.000	0.096	0.096	0.096	0.000	
	Subtotal Software Development	**0.000**	**1.802**	**1.802**	**1.802**	**(1.802)**	
	Minor Construction						
	Relocate LAV Test Stand	0.000	0.200	0.200	0.200	0.000	Substitute for deleted project.
	Hardstand Storage Production Area	0.000	0.300	0.300	0.300	0.000	Substitute for deleted project.
	Mezzanine Break Area	0.000	0.175	0.175	0.175	0.000	Substitute for deleted project.
	Radiac Area Addition	0.000	0.297	0.297	0.297	0.000	Substitute for deleted project.
	Maintenance Facility	0.000	0.100	0.100	0.100	0.000	Substitute for deleted project.
	Storage Building for BC 720	0.000	0.250	0.250	0.250	0.000	Substitute for deleted project.
	LaserPunch Facility	0.200	-0.200	0.000	0.000	0.000	Project deleted.
	QLB Facility	0.297	-0.297	0.000	0.000	0.000	Project deleted.
	Concrete Pad	0.108	-0.108	0.000	0.000	0.000	Project deleted.
	Construct Radiac	0.297	-0.297	0.000	0.000	0.000	Project deleted.
	Fire Bottle Station	0.205	-0.205	0.000	0.000	0.000	Project deleted.
	Fiber Glass Facility	0.216	-0.216	0.000	0.000	0.000	Project deleted.
	VOC Facility	0.130	-0.130	0.000	0.000	0.000	Project deleted.
	New POL Building	0.250	-0.250	0.000	0.000	0.000	Project deleted.
	Paint Conveyer	0.150	-0.150	0.000	0.000	0.000	Project deleted.
	Storage Building (740)	0.250	-0.250	0.000	0.000	0.000	Project deleted.
	Sub-total Minor Construction	**2.103**	**-0.781**	**1.322**	**1.322**	**0.000**	
	Total FY 1999	**3.487**	**1.721**	**5.208**	**5.208**	**0.000**	

FY 1999 AMENDED BUDGET ESTIMATES
NAVY WORKING CAPITAL FUND
ACTIVITY GROUP: ORDNANCE
Feb-1998

Activity Group Function:

The Naval Ordnance Center (NAVORDCEN) and the Weapons Support Facilities (WPNSUPFAC) provide all services for explosive outloading of combat logistic force ships, amphibious ships, combatants, submarines and commercial vessels. The WPNSUPFAC also provide retail ammunition management services including Receipt, Segregation, Storage, Issue (RSS&I) and maintenance of ammunition. Other functions include intermediate and depot level maintenance assignments for air, surface and subsurface weapons, and prototype and pilot production services. WPNSUPFAC Seal Beach and WPNSUPFAC Seal Beach Detachment Concord are host activities with significant military/tenant support responsibilities. WPNSUPFAC Seal Beach Detachment Concord provides complete homeport services for naval combat logistic force ships until August 1998. The Inventory Management and Systems Division is also included in the activity group and is responsible for performing inventory management and program support for all Navy tactical expendable ordnance.

Activity Group Composition:

Activities	Location
Weapons Support Facility Yorktown	Yorktown, Virginia
Weapons Support Facility Yorktown Detachment Charleston	Charleston, South Carolina
Weapons Support Facility Yorktown Detachment Earle	Colts Neck, New Jersey
Weapons Support Facility Seal Beach	Seal Beach, California
Weapons Support Facility Seal Beach Detachment Concord	Concord, California
Weapons Support Facility Seal Beach Detachment Fallbrook	Fallbrook, California
Weapons Support Facility Seal Beach Detachment Port Hadlock	Port Hadlock, Washington
Inventory Management and Systems Division	Mechanicsburg, Pennsylvania

Budget Highlights:

1. **Summary of Budget Data.**

$/DLHs in Millions	FY 1997 Actual	FY 1998	FY 1999
New Orders ($)	520.8	406.0	199.6
Revenue ($)	539.4	432.1	210.8
Cost Goods Sold ($)	539.1	253.1	211.1
DLHs	4.716	2.220	2.107
Civilian E/S	3,737	1,540	1,441
Civilian FTE Wys	4,048	1,540	1,441
Military E/S	616	672	374

FY 1998 revenue estimate includes $224 million for AOR recoupment through Navy Receipt, Segregation, Storage, and Issue (RSS&I) rates.

2. **General.** The Naval Ordnance Center (NAVORDCEN) continues to undergo major restructuring as a result of Defense force structure reductions, consolidation and downsizing initiatives, and efforts to effectively reorganize and realign to best provide ordnance logistics and technical services to U.S. operating forces in support of the National Military Strategy. As the NAVORDCEN Activity Group transfers non-ordnance functions to other claimants, it will experience a projected 67 percent reduction in civilian end strength, a 68 percent reduction in civilian full time equivalent workyears, a 59 percent reduction in direct labor hours, a 49 percent reduction in military end strength and a 65 percent reduction in cost from FY 1996 to FY 1999. Highlights of the major variables impacting our current estimates are explained in the following sections.

3. **Restructuring.** The NAVORDCEN will make some fundamental changes in the way it is organized and how it will do business. We will reengineer the organization to focus on our core business area of ordnance management. Our efforts will poise the organization to effectively support operating forces in the face of continually declining workload and resources. Within ordnance management, we will enhance our role in explosives safety, improve ordnance inventory management and improve our processes for ordnance distribution. We will continuously look for efficiencies and best practices and integrate them into our daily routine. In addition, to support the Navy's aggressive emphasis on reducing infrastructure costs, we will take the initiative to determine what functions we can and should perform, what can be outsourced to the private sector, and what work must be eliminated. The following NAVORDCEN restructuring actions are included in the budget submission:

a. **Transfer base management functions of Naval Weapons Stations to Fleet Commanders and Naval Facilities Engineering Command**. The transfer of Naval Weapons Stations Charleston, Earle and Yorktown base management functions to Commander In Chief, U.S. Atlantic Fleet (CINCLANFLT) and Commander, Naval Facilities Engineering Command (COMNAVFAC) occurred on 1 October 1997. Preliminary negotiations have commenced for the transfer of Naval Weapons Stations Seal Beach, Concord, Port Hadlock and Fallbrook base management functions, with a goal to implement on 1 October 1998.

b. **Transfer ordnance operations to Fleet Commanders.** The Naval Ordnance Center has begun negotiations to transfer ordnance operations to the Fleet Commanders, with a goal to implement 1 October 1998. This realignment of ordnance operations enables the Fleet Commanders to seek further efficiencies in the RSS&I program.

c. **Mission funding of NAVORDCEN Headquarters.** As the NAVORDCEN Headquarters transitions to a functional role of activity level ordnance policy oversight, technical oversight of ordnance, environmental, and safety handling issues, and ordnance inventory management it was determined that the associated annual costs be direct funded (O&M,N) effective 1 October 1998.

d. **Transfer Naval Warfare Assessment Division to the Naval Surface Warfare Center**. The transfer of the Naval Warfare Assessment Division (NWAD) to Naval Surface Warfare Center (NSWC) is reflected in FY 1998 estimates. This transfer consolidates engineering functions at NSWC and allows the Naval Ordnance Center (NAVORDCEN) to focus on our core business area of ordnance management.

The following table depicts the transfer amounts for the East Coast Base Management Transfer, the Naval Warfare Assessment Division (NWAD) transfer and the Naval Ordnance Center Headquarters (NOCHQ) mission funding:

$/DLHs in Millions	FY 1998		FY 1999		
	Base Mgmt	NWAD	Base Mgmt	NWAD	NOCHQ
New Orders ($)	-108.3	-174.9	-106.8	-182.4	-9.7
Revenue ($)	-108.3	-180.3	-106.8	-176.4	-9.7
Cost ($)	- 91.8	-155.3	-104.9	-143.4	-9.7
DLHs	-0.742	-1,787	-0.742	-1,771	-0.063
Civilian E/S	-884	-1,245	-884	-1,230	-66
Civilian Wys	-884	-1,245	-884	-1,230	-66
NWCF Military E/S	0	0	-241	-8	-13
MPN Military E/S	-206	0	-206	0	-13

e. **Establish One Lead Weapons Support Facility on Each Coast, Disestablish NAVORDCEN Atlantic and Pacific Division Headquarters, and Significantly Reduce Operations at Non-Lead Weapons Stations and Detachments.** This effort will establish the most economical ordnance delivery schedule for each Coast, further merge and consolidate essential support and maintenance functions into a lead facility on each Coast, and reduce the level of operations at non-lead weapons station facilities. One weapons station on each Coast will be placed in a tailored operations status, providing minimum security and maintenance to prevent significant property deterioration. The tailored operations status of these weapons stations is considered underutilized plant capacity and the cost was budgeted to be funded through the O&M,N appropriation effective FY 1998 as a mobilization item.

4. **Indirect/Overhead Costs.** The NAVORDCEN's ability to control and reduce total indirect or overhead costs is critical to achievement of its restructuring, consolidation and downsizing goals. This budget reflects the NAVORDCEN's commitment to these goals. The following table reflects projected estimates and trends for indirect (overhead) costs:

Current Estimate	FY 1997 Actual	FY 1998	FY 1999
Indirect Costs ($Millions)	259.7	131.7	112.1
INDLHs (Millions)	3.326	1.916	1.305
DLHs (Millions)	4.716	2.220	2.107
% Change Costs		-49.3%	-14.9%
% Change INDLHs		-42.4%	-31.9%
% Change DLHs		-52.9%	-5.1%

*FY 1997 indirect costs include $26.8 million associated with 467 excess civilian FTE workyears, plus $11.8 million in additional SIP/VERA/RIF costs above the President's budget.

As the above table illustrates, the Naval Ordnance Center (NAVORDCEN) indirect costs are projected to decrease by 61 percent from FY 1997 to FY 1999. Direct labor hours (direct workload) are expected to decrease by 55 percent over this same period. Civilian personnel reductions over this period will be accomplished through attrition, voluntary separation incentives (separation incentive pay/early retirement), involuntary separations (reductions in force), and functional transfers (i.e., base management and Naval Warfare Assessment Division).

5. **Civilian Manpower.** The budget reflects the following NAVORDCEN civilian manpower profile:

	FY 1997 Actual	FY 1998	FY 1999
End Strength	3,737	1,540	1,441
FTP	3,422	1,187	1,128
Temps/Other	315	353	313
Workyears(including overtime)	4,278	1,645	1,543
ST Direct	2,500	1,075	1,010
ST Indirect	1,548	465	431
OT Equivalent	220	105	102
DLHs (Millions)	4.716	2.220	2.107

FY 1997-1999 reductions in civilian end strength and workyears are consistent with direct workload trends. From FY 1997-1999, civilian end strength will decrease by 2,296 or 61 percent. The NAVORDCEN will manage the downward trend from FY 1997 to FY 1999 through attrition, implementation of voluntary and involuntary separations, and functional transfers (i.e., base management and NWAD).

Temporary fluctuations in direct workload will be absorbed and executed through the use of a flexible workforce (temporary, term and intermittent employees) and overtime. Building a flexible workforce for the future (short term temporaries, long term non-permanent personnel, multi-skilled wage grade) should alleviate the need for future involuntary separations.

6. **Military.**

a. **Military Labor.** The following military labor estimates have been incorporated in the budget:

	FY 1997 Actual	FY 1998	FY 1999
Active ($ in Millions)	23.4	22.6	12.9
End Strength	616	672	374
Workyears	419	672	389
Reserves ($ in Millions)	4.4	0.0	0.0
Workyears	133	0	0

b. **Naval Reserve Contributory Support**. Effective FY 1998, reservists performing annual duty for training at Naval Weapons Stations are considered to be in a training status and their costs will be fully funded in the Reserve Personnel, Navy appropriation.

7. **FY 1997-1999 NAVORDCEN/WPNSUPFAC Composite Stabilized Rates.** The following reflects the trends in the Weapons Support Facilities (WPNSUPFAC) approved and proposed customer composite stabilized billing rates. (Composite billing rates include all direct non-labor costs in addition to direct labor, production and G&A expenses.) The FY 1999 RSS&I rate is $128.05; the FY 1999 non-Navy RSS&I rate is $104.38; and the FY 1999 All Other rate is $90.71. FY 1999 rates percent change shown below are based on FY 1998 rates for similar work.

	FY 1997	FY 1998	FY1999
Comp Billing Rate	93.95	149.30*	106.99
% Change Navy RSS&I**		335.1	-70.4
% Change Non-Navy			3.7
% Change Other		1.8	-3.8
DLHs (Millions)	4.716	2.220	2.107
% Change		-52.9%	-5.1%

*Includes $224.3M AOR recoupment
** Receipt, Segregation, Storage, and Issue

8. **Unit Cost Goals/Rates**. The budget reflects the following unit cost goals based on current cost estimates:

$/DLHs in Millions	FY 1997 Actual	FY1998	FY1999
Total Costs for the FY	533.4	252.3	210.0
DLHs	4.716	2.220	2.107
Unit Cost	$113.10	$113.66	$99.65
% Chg. Unit Cost		0.0%	-12.3%
% Chg. DLHs		-52.9%	-5.1%

The Naval Ordnance Center's (NAVORDCEN) ability to reduce costs through restructuring, consolidation and downsizing of its infrastructure and process improvements is critical in keeping its year-to-year changes in unit cost rates below inflation and fluctuations in direct workload.

9. **Productive Ratios**. This budget reflects the following straight time workyear productive ratios:

	FY 1997 Actual	FY 1998	FY 1999
Productive Ratio	61.8%	69.8%	70.1%

The NAVORDCEN's ability to restructure, consolidate and eliminate unnecessary and redundant overhead functions, and also effectively project and execute planned direct workload from FY 1997-1999 is critical to achievement of the budget goals.

10. **Net Operating Results (NOR)/Accumulated Operating Results(AOR).** The following table reflects the NOR (revenue less expense) and AOR levels included in the budget:

$ in Millions	FY 1997 Actual	FY 1998	FY 1999
Beginning AOR	-158.2	-210.2	0.266
- NOR	.3	179.1	-0.266
- Adjustments	-52.2	31.4	0.0
Ending AOR	-210.2	0.266	0.0

FY 1998 NOR includes recovery of a $224.3 million AOR recoupment from the Receipt, Segregation, Storage & Issue (RSS&I) program.

11. **Capital Purchases Program (CPP).** The CPP allows for improvement in readiness, sustainability and mobilization for mission support through replacement of existing overaged facilities and equipment and investment in new productivity enhancing projects. In addition, these capital investments contribute to resolving environmental and safety compliance related requirements. The following displays the CPP requirements/authority reflected in the budget and is consistent with the Naval Ordnance Center (NAVORDCEN) restructuring goals:

$ in Millions	FY 1997 Actual	FY 1998	FY 1999
Non ADP Equipment	2.2	1.0	2.4
ADP/Telcom	1.3	0.0	0.0
Minor Construction	2.8	1.5	0.6
Software Development	2.4	3.9	0.6
Total CPP	8.7	6.4	3.6

FY 1997-1999 CPP requirements reflect the NAVORDCEN's commitment to reduce its infrastructure costs and associated investments. The FY 1997-1999 CPP decreases by 59 percent.

12. **Defense Industrial Financial Management System (DIFMS).** DIFMS is budgeted to be operational in FY 1998. The budget includes the following implementation and operational requirements:

$ in Millions	FY 1997	FY 1998	FY 1999
Implementation (CPP)	.250	3.317	.553
Operations and Maintenance (NWCF)	0	0	1.782

13. **Performance Indicators.** The Naval Ordnance Center key performance indicator is the total cost per direct labor hour. This is a measure of cost effectiveness of the activity in performance of its total mission. It is derived by dividing the total cost of operations by the number of direct labor hours.

	FY 1997 Actual	FY1998	FY1999
Total cost per Direct Labor Hr	$113.10	$113.66	$99.65

14. **Maintenance and Repair (MRP).** The following displays the level of MRP costs included in the budget:

$ in Millions	FY 1997 Actual	FY 1998	FY 1999
MRP	47.7	26.3	21.9
Navy Working Capital Fund Funded	47.7	15.3	17.4
O&M,N Mobilization Funded	0.0	11.0	4.5

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
NWS / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	476.9	428.1	207.2
Surcharges	51.2	.0	.0
Depreciation excluding Major Constructio	11.3	4.1	3.7
Other Income			
Total Income	539.4	432.1	210.8
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	23.4	22.6	12.9
Civilian Personnel	242.0	95.7	90.8
Travel and Transportation of Personnel	9.1	3.8	3.0
Material & Supplies (Internal Operations	46.8	17.6	14.4
Equipment	2.2	1.3	2.2
Other Purchases from NWCF	36.5	31.4	25.6
Transportation of Things	.1	.0	.0
Depreciation - Capital	11.3	4.1	3.7
Printing and Reproduction	1.7	.6	.6
Advisory and Assistance Services	.0	.0	.0
Rent, Communication & Utilities	19.8	8.2	6.7
Other Purchased Sevices	140.5	67.1	50.3
Total Expenses	533.4	252.3	210.0
Work in Process Adjustment	5.7	.8	1.1
Comp Work for Activity Reten Adjustment	.0	.0	.0
Cost of Goods Sold	539.1	253.1	211.1
Operating Result	.3	179.1	-.3
Less Surcharges	-51.2	.0	.0
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	.0	.0	.0
Net Operating Result	-50.9	179.1	-.3
Other Changes Affecting AOR	-1.0	31.4	.0
Accumulated Operating Result	-210.2	.3	.0

Exhibit Fund-14

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NWS / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	520.8	406.0	199.6
a. Orders from DoD Components	448.5	383.4	169.7
Department of the Navy	414.5	366.6	156.4
O & M, Navy	297.6	373.6	145.4
O & M, Marine Corps	8.3	.3	.4
O & M, Navy Reserve	1.8	1.9	1.5
O & M, Marine Corp Reserve	.1	.1	.1
Aircraft Porcurement, Navy	4.1	-.9	.0
Weapons Procurement, Navy	26.6	-1.6	2.3
Ammunition Procurement, Navy/MC	.0	.8	1.7
Shipbuilding & Conversion, Navy	19.8	-.9	1.5
Other Procurement, Navy	11.3	-9.1	.8
Procurement, Marine Corps	1.9	.0	.0
Family Housing, Navy/MC	27.8	.0	.0
Research, Dev., Test, & Eval., Navy	11.6	.1	.6
Military Construction, Navy	.0	.9	.0
Other Navy Appropriations	3.6	1.3	2.1
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	16.9	15.1	11.2
Army Operation & Maintenence	13.6	.0	.0
Army Res, Dev, Test, Eval	.0	.0	.0
Army Procurement	.2	.0	.0
Army Other	3.1	15.1	11.2
Department of the Air Force	4.9	1.9	2.1
Air Force Operation & Maintenence	.9	.4	.0
Air Force Res, Dev, Test, Eval	1.0	.0	.0
Air Force Procurement	.1	.0	.0
Air Force Other	2.8	1.5	2.1
DOD Appropriation Accounts	12.2	-.2	.0
Base Closure & Realignment	.0	.0	.0
Operation & Maintence Accounts	3.0	.0	.0
Res, Dev, Test & Eval Accounts	2.3	-.3	.0
Procurement Accounts	2.0	.0	.0
DOD Other	4.9	.1	.0
b. Orders from NWCF Business Area	49.8	20.6	24.9
c. Total DoD	498.3	404.0	194.6
d. Other Orders	22.5	2.0	5.0
Other Federal Agencies	2.6	.5	.1
Foreign Military Sales	17.5	1.3	4.4
Non Federal Agencies	2.4	.2	.5

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NWS / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	141.1	118.2	92.0
3. Total Gross Orders	661.9	524.2	291.6
4. Funded Carry-Over **	118.2	92.0	80.8
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	543.7	432.1	210.8

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

FY 1999 AMENDED BUDGET ESTIMATES
NAVY WORKING CAPITAL FUND
ACTIVITY GROUP: ORDNANCE
Feb-1998

SUMMARY OF CHANGES IN OPERATIONS

Dollars in Millions

	COSTS
1. FY 1997 Actual	**533.4**
2. FY 1998 Estimate in the FY 1998 President's Budget	**455.7**
Pricing Adjustments	
Productivity Initiatives and Other Efficiencies	
Programmatic Changes:	
Direct Labor Costs change by $-78.0M as follows:	
Naval Warfare Assessment Division transfer to Naval Surface Warfare Center (NSWC) (-974 Direct Civilian FTE and 82.4K Direct Civilian Overtime Hours)	-70.0
Base Mgmt Support function transfer to CINCLANTFLT and PWC (-424 Direct Civilian FTE)	-17.8
Reduction in Other Direct programmatic Overtime requirements	-2.0
Increase due to shift of 51 FTE overhead functions to direct funded mobilization at NWS Charleston and Concord (other labor compensations included)	4.3
Increase due to +76 FTE Direct programmatic workload	4.0
Military Labor cost shift from Indirect to Direct - Mobilization funded and other	3.2
Increase due to change in employer contributions for CSRS/FERS	0.3
Direct Nonlabor Costs change by $-50.4M as follows:	
Naval Warfare Assessment Division transfer to Naval Surface Warfare Center	-48.4
Base Mgmt Support function transfer to CINCLANTFLT and PWC	-33.9
Mobilization requirements at NWS Charleston and Concord	19.3
Materials for FMS Ship Transfer Program and New Ships Outfitting at NWS Concord	10.5
Increase Contracts associated with Increased direct workload	2.3
General Inflation Decrease	-0.2
Indirect Labor Costs change by $-44.2M as follows:	
Base Mgmt Support function transfer to CINCLANTFLT and PWC (-460 Civilian FTE)	-24.4
Naval Warfare Assessment Division transfer to Naval Surface Warfare Center (-111 PE and -160 G&A Civilian FTE; and -9.2K Indirect Overtime Hours)	-18.1
Decrease due to shift of 51 FTE overhead functions to direct funded mobilization at NWS Charleston and Concord (other labor compensations included)	-4.3
Military Labor cost shift from Indirect to Direct - Mobilization funded and other	-3.2
Increase due to +43 FTE IRM/Engineering functions at NWAD; and +4 FTE assocated with direct workload	3.4
RIF/SIP Costs to achieve flexible workforce goal	1.3
PCS Costs associated with RIF	0.7
Health Continuance Costs (in Object Class 13-Labor) associated with RIF	0.2
Increase due to change in employer contributions for CSRS/FERS	0.2

FY 1999 AMENDED BUDGET ESTIMATES
NAVY WORKING CAPITAL FUND
ACTIVITY GROUP: ORDNANCE
Feb-1998

SUMMARY OF CHANGES IN OPERATIONS

Dollars in Millions

	COSTS
Indirect Nonlabor Costs change by $-30.8M as follows:	
Naval Warfare Assessment Division transfer to Naval Surface Warfare Center	-18.8
Base Mgmt Support function transfer to CINCLANTFLT and PWC	-15.7
Miscellaneous other contract reductions at NWS Yorktown	-3.6
IRM purchases from Naval Surface Warfare Center	5.4
Increase MRP	1.8
Leadership Training	0.5
General Inflation Decrease	-0.4
3. FY 1998 Current Estimate Apportionment Submission	**252.3**
Pricing Adjustments	
Payraise	
Civilian	2.2
Military	0.4
Annualization of prior year payraise	0.9
Travel/Transportation/Other	0.0
Materials and Supplies	0.0
Other Intrafund Purchases	0.4
Other Purchases	1.4
Productivity Initiatives and Other Efficiencies including CPP	-0.2
Programmatic Changes:	
Direct Labor Costs change by $-5.5M as follows:	
Decrease of 29 Direct Civilian FTE at various NAVORDCEN sites	-2.4
NAVORDCENHQ transfer 36 FTE to NAVSEASYSCOM	-2.8
Reduction of Military labor at Naval Warfare Assessment Division transferred to Naval Surface Warfare Center (NSWC)	-0.3
Direct Nonlabor Costs change by $-19.7M as follows:	
Reduced Mobilization funding at NWS Charleston and Concord	-12.6
Reduced Direct Material for FMS Ship Transfer Program and New Ships Outfitting residual accounting for Naval Warfare Assessment Center transferred to NSWC	-2.5
Reduced Direct Contract for Inventory Mgmt & Systems Division	-3.0
NAVORDCENHQ transfer to NAVSEASYSCOM	-1.6

FY 1999 AMENDED BUDGET ESTIMATES
NAVY WORKING CAPITAL FUND
ACTIVITY GROUP: ORDNANCE
Feb-1998

SUMMARY OF CHANGES IN OPERATIONS

Dollars in Millions

	COSTS
Indirect Labor Costs change by $-13.8M as follows:	
NAVORDCENHQ transfer to NAVSEASYSCOM	-3.3
Decrease of 285 NWCF Military Workyear requirements	-8.9
(-8 NWAD transfer to NSWC; -241 Base Mgmt Support transfer; -36 NOC realignments)	
Decrease in RIF/SIP Costs	-1.3
Reduction in Retirement Fund Offsets	-0.2
Reduction in Health Continuance Costs associated with RIF	-0.1
Indirect Nonlabor Costs change by $-8.4M as follows:	
Increase for CAIMS leased lines	0.3
Reductions in contracts and supplies due to Restructuring Initiatives	-2.8
(i.e. MRP, HRO services, equipment maintenance, purchased communications, etc)	
Reduced ADP Services	-1.2
Reduced intrafund contract costs (i.e. with PWCs)	-1.6
Reduced purchased utilities	-0.7
Reduced training	-0.4
NAVORDCENHQ transfer to NAVSEASYSCOM	-2.0
4. FY 1999 Current Estimate Apportionment Submission	**210.0**

Business Area: Capital Budget Summary
Component: NAVAL ORDNANCE CENTER
Business Area: DON/ORDNANCE
FY 1998/1999 PRESIDENT'S BUDGET
($ in Millions)

Line Num	Description	FY 1996		FY 1997		FY 1998		FY 1999	
		Qty	Total Cost	Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
	Non ADP								
1	CRANE TRUCK MOUNTED 200 TON CAPACITY E/C 8249-00 (Replacement)							1	2.000
2	Miscellaneous (Non ADP < $500K; > $100K)				2.210		.989		.415
	Non ADP Total:				**2.210**		**.989**		**2.415**
	ADP								
3	Miscellaneous (ADP < $500K; > $100K)				1.266				
	ADP Total:				**1.266**				
	Software								
4	NIFMS			1	.249	1	3.317	1	.553
5	NAVORDCEN EXECUTIVE INFORMATION SYSTEM (EIS)			1	.529				

Business Area: Capital Budget Summary
Component: NAVAL ORDNANCE CENTER
Business Area: DON/ORDNANCE
FY 1998/1999 PRESIDENT'S BUDGET
($ in Millions)

Line Num	Description	FY 1996		FY 1997		FY 1998		FY 1999	
		Qty	Total Cost	Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
6	CAIMS TO OSE - Prototype			1	1.287				
7	ALFA/APMM					1	.600		
8	Miscellaneous (Software <$500K; > $100K)				0.373				
	Software Total:				**2.438**		**3.917**		**.553**
	Minor Construction								
9	CONSTRUCT HOLDING YARD F					1	.600		
10	Miscellaneous (Minor Construction < $500K; > $100K)				2.750		.845		.650
	Minor Construction Total:				**2.750**		**1.445**		**.650**
	Grand Total:				**8.664**		**6.351**		**3.618**

BA: CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)												
A. Budget Submission FY 1998/1999 PRESIDENT'S BUDGET												
B. Component/Business Area/Date DON/ORDNANCE				C. Line# and Description 1/CRANE TRUCK MOUNTED 200 TON CAPACITY E/C 8249-00 (Replacement)				D. Site Identification Weapon Station Earle, NJ				
	FY 1996			FY 1997			FY 1998			FY 1999		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP										1	2000	2000

Narrative Justification:

Description

Project Number: Category: Replacement Crane truck mounted hydraulic 200 ton capacity

Justification

To replace older equipment in this series that meets the criteria for replacement. This project will replace two 150 Ton lattice boom cranes, EINs 82-04781 built in 1985 and 82-04942 built in 1987. Cost to repair/overhaul the old units will exceed 50% of cost of new replacements. Cost to replace the old units will be approximately $993K each. Other savings will be realized in the following areas: 1) a hydraulic crane is less expensive to maintain than a lattice boom; 2) a hydraulic crane is easier to transport from the shop to the work site; 3) there will be one less crane to maintain, test & certify.

Impact

Cranes are utilized in direct support of ordnance department, in the loading of ships at our pier operations and also supports other activities involved at pier.

BA: CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)						A. Budget Submission FY 1998/1999 PRESIDENT'S BUDGET						
B. Component/Business Area/Date DON/ORDNANCE				C. Line# and Description 4/NIFMS				D. Site Identification NOC Indian Head, MD(all sites)				
	FY 1996			FY 1997			FY 1998			FY 1999		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Software				1	249	249	1	3317	3317	1	553	553

Narrative Justification:

Description

NAVORDCEN has been directed (ASN ltr 7340.7, FMO-12; dtd 25 Nov 1996, and Memo of Implementation Schedule, dtd 18 Mar 1997) to implement the DoD interim financial system of NAVAIR Industrial Financial Management System (NIFMS) during FY 98 and FY 99, with pre-implementation meetings to begin during Fy 97. References direct the implementation during FY 97 and FY 98, but during subsequent meetings between ASN, NAVSEA and NAVORDCEN representatives it was agreed that implementation should be planned for the beginning of FY 98 to combine site deployment. NIFMS will replace legacy systems currently being used by the Naval Ordnance Center Activities. NIFMS will standardize and facilitate the consolidation of financial within NAVORDCEN.

Justification

Impact

BA: CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)							A. Budget Submission FY 1998/1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date DON/ORDNANCE				C. Line# and Description 5/NAVORDCEN EXECUTIVE INFORMATION SYSTEM (EIS)				D. Site Identification NOC Indian Head, MD(all sites)				
	FY 1996			FY 1997			FY 1998			FY 1999		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Software				1	529	529						

Narrative Justification:

Description

The NAVORDCEN EIS will be an automated information system that serves as the electronic repository of corporate performance indicators. It will be comprised of a graphical user interface to enable users to easily navigate through the system and a data warehouse to store the wide range of data required to feed the EIS.

Justification

The NAVORDCEN EIS will provide NAVORDCEN Management with the ability to pull key information from the host of existing supporting automated management information systems. Currently the information exists in virtual islands. Collection, comparison, analysis and projection must be done manually. The EIS will overlay the existing systems and access selected data by which the critical performance of the NAVORDCEN corporate and division processes can be monitored and analyzed. The EIS will routinely and automatically collect and display HQ NAVORDCEN process indicators and highlight non-conforming processes for management attention. The EIS will also give management the ability to tailor or design special reports for comparisons in order to perform specific or additional analysis. The supporting data warehouse will improve the ability to reuse data thereby reducing data acquisition maintenance costs.

Impact

Management data required by the NAVORDCEN currently resides on a group of fragmented, independent management information systems. Without development of the EIS, the NAVORDCEN will be severely hampered in performing its mission. In this era of infrastructure downsizing, we must be proactive in identifying ways to provide top level managers with automated information tools. The EIS is vital to the NAVORDCEN mission and if not developed will have the NAVORDCEN in a manual mode of assimilating the vast amount of decision making information.

BA: CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)							A. Budget Submission FY 1998/1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date DON/ORDNANCE				C. Line# and Description 6/ CAIMS TO OSE - Prototype				D. Site Identification NOC Indian Head, MD(all sites)				
	FY 1996			FY 1997			FY 1998			FY 1999		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Software				1	1287	1287						

Narrative Justification:

Description

A Conventional Ammunition Integrated Management System (CAIMS) migration to prototype. This prototype provides a road map and proves the process for migration to an Open Systems Environment (OSE).

Justification

The CAIMS was developed in the early 70's with the objective and purpose to be the single point of reference within Navy for information on the world-wide status of Navy expendable non-nuclear ordnance requirements, assets, production, expenditures, cost and technical inventory management data. In the early 80's CAIMS was modernized utilizing the then state-of-the-art technology. CAIMS is presently operating with the 80's vintage hardware/software technology and needs to be upgraded.

CAIMS also now faces a "Year 2000" problem. Without actions to address and correct this problem, the system will experience critical failure. Some impact to data integrity is being felt now, specifically when computing maintenance due dates and procurement dates that extend past the year 2000. Provisions must be made to address the navy's requirements today and for the next 7-10 years.

Impact

Without the prototype, development requirements for CAIMS OSE conversion will be 50% higher with conversion not completed until after the year 2000. The CAIMS will completely fail to run in 1999. The NAVORDCEN would not be able to fulfill it's mission for the Navy providing the single repository for world-wide Navy non-nuclear ordnance asset information and all associated inventory management functions. Without this repository existing and providing accurate information, the full logistics life cycle could be negatively impacted, as all ordnance managers within the Navy require access to this information. Fleet readiness would rapidly deteriorate without the visibility of the world-wide ordnance assets.

BA: CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. Budget Submission
FY 1998/1999 PRESIDENT'S BUDGET

B. Component/Business Area/Date: DON/ORDNANCE

C. Line# and Description: 7/ALFA/APMM

D. Site Identification: NOC Indian Head, MD(all sites)

ELEMENTS OF COST	FY 1996 Qty	FY 1996 Unit Cost	FY 1996 Total Cost	FY 1997 Qty	FY 1997 Unit Cost	FY 1997 Total Cost	FY 1998 Qty	FY 1998 Unit Cost	FY 1998 Total Cost	FY 1999 Qty	FY 1999 Unit Cost	FY 1999 Total Cost
Software							1	600	600			

Narrative Justification:

Description

The Activity Land and Facilities Assets (ALFA)/Activity Planning and Management Model (APMM) is a facilities management tool. The prototype developed for WPNSTA Yorktown, WPNSTA Seal Beach and NAVORDCEN PACDIV Fallbrook Det will be migrated to the four remaining ordnance field activities and NWAD. The system uses commercial off-the-shelf (COTS) software delivering management a graphical information systems (GIS) documenting all critical infrastructure including explosive safety quantity distance arc (ESQD) via the internet.

Justification

A key theme in both the NAVSEA and NAVORDCEN is infrastructure reduction of both facilitites and manpower. The implementation plan includes centralized planning staffs with reduced staff using a real-time distributed information system (APMM) to manage the infrastructure downsizing effort. The prototype has validated the savings in the economic analysis.

Impact

If not funded, the effectiveness of the centralized planning staff will be hampered. This will result in the loss of the stated savings as well as degradation in the quality of planning efforts. In addition, lack of good long range planning will slow down infrastructure reduction efforts which is in direct conflict with the Navy's strategic plans.

BA: CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. Budget Submission FY 1998/1999 PRESIDENT'S BUDGET		
B. Component/Business Area/Date DON/ORDNANCE	C. Line# and Description 8/Miscellaneous (Software < $500K; > $100K)		D. Site Identification NA	
	FY 1996	FY 1997	FY 1998	FY 1999
ELEMENTS OF COST	Total Cost	Total Cost	Total Cost	Total Cost
TOTAL COST		373	0	0

BA: CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)							A. Budget Submission FY 1998/1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date DON/ORDNANCE				C. Line# and Description 9/CONSTRUCT HOLDING YARD F				D. Site Identification NOC Div Fallbrook Det. CA				
	FY 1996			FY 1997			FY 1998			FY 1999		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Minor Construction							1	600	600			

Narrative Justification:

Description

A&E cost for project. This project constructs an asphalt holding pad for explosive laden vehicles. The purpose of this project is waiver elimination and it supports the NAVORDCEN Strategic Plan ordnance safety, security, and environmental compliance area.

Justification

Since the NAVORDCEN, Fallbrook Detachment does not have a holding yard, a waiver request (CNO Waiver No. NAVORDCEN Pacific Division, Fallbrook Detachment, 01-94) has been submitted that will allow parking of an explosive laden conveyance at the classification yard and/or transfer depot. A holding yard is the only alternative available to eliminate this waiver. The process requires trucks to proceed to the classification yard for inspection, classification, and disposition upon arrival at the Detachment. If a prolonged delay is encountered, or the carrier arrives on station after normal working hours, a safe and secure area is required for the carrier to park until it can be processed and unloaded. Since no explosive holding hard exists at the Detachment, explosive laden trucks are currently parked near magazines. Per NAVSEA ltr Ser 06G/023 of 29 Jan 93, if an ordnance laden conveyance cannot be off-loaded or moved off-base within one working day, it must be parked in a properly sited holding yard. If such does not exist at the site, a waiver is required to park the material in a location that does not meet explosive safety quantity distance (ESQD) requirements. this is properly a Capitalized MInor Construction project as it meets requirements (life, safety, or health related) of Special Threshold Section 2811, of Title 10 United States Code, Section 2805 allowing projects up to $1,000,000. An economic analysis was not performed since it is not required for environment projects. Estimated operation date is 4/2000.

Impact

If this project is not funded, continuation of the existing waiver will be required.

BA: CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. Budget Submission FY 1998/1999 PRESIDENT'S BUDGET	
B. Component/Business Area/Date DON/ORDNANCE	C. Line# and Description 10/Miscellaneous (Minor Construction < $500K; > $100K)	D. Site Identification NA	

	FY 1996	FY 1997	FY 1998	FY 1999
ELEMENTS OF COST	Total Cost	Total Cost	Total Cost	Total Cost
TOTAL COST		2750	845	650
A&E COSTS FOR FY 2000 MINOR CONSTRUCTION PROJECTS				120
DEMOLISH/RECONSTRUCT PART OF BLDG 4A				265
LIGHTNING PROTECTION - B BARRICADES				265

FY 1998/1999 PRESIDENT'S BUDGET
NAVAL ORDNANCE CENTER
FY 98

Title/Description	FY98/99 President's	+/-	FY 99 OSD/OMB	Remarks
NON ADP EQUIPMENT				
External Data Comms & Display/Debrief	0.4	-0.4	0	Project cancelled
Miscellaneous NON ADP Equipment	1.238	-0.249	0.989	Projects cancelled
SUBTOTAL (NON ADP EQUIPMENT)	1.638	-0.649	0.989	
ADPE and TELECOMM Equip				
Open Systems Environment	0.78	-0.78	0	No longer required
Data Communications	0.35	-0.35	0	NWAD transfer to NSWC
Mid Tier Processing	0.5	-0.5	0	No longer required
Miscellaneous ADP Equipment	0.2	-0.2	0	NWAD transfer to NSWC
SUBTOTAL (ADPE/TELECOM EQUIP)	1.83	-1.83	0	
Software Development				
ALFA/APMM	0.6	0	0.6	No change
NIFMS Software	0	3.317	3.317	New requirement
SUBTOTAL (SOFTWARE DEVEL)	0.6	3.317	3.917	
MINOR CONSTRUCTION				
Construct Holding Yard	0.6	0	0.6	No change
Environmental Controls - T&E Lab PHS&T	0.29	-0.29	0	No longer required
Lightning Protection - A Barricades	0.285	-0.285	0	Change in threshold, now misc
EOD Facility Addition for Bldg C-7	0.275	-0.275	0	No longer required

FY 1998/1999 PRESIDENT'S BUDGET
NAVAL ORDNANCE CENTER
FY 98

MINOR CONSTRUCTION (CONTINUED)				
Alts to Bldg 26 S	0.25	-0.25	0	Change in threshold, now misc
Miscellaneous MInor Construction	0.85	-0.005	0.845	Projects cancelled
SUBTOTAL (MINOR CONSTRUCTION)	2.55	-1.105	1.445	
GRAND TOTAL	6.618	-0.267	6.351	

FY 1998/1999 PRESIDENT'S BUDGET
NAVAL ORDNANCE CENTER
FY99

Title/Description	FY98/99 President's	+/-	FY 99 OSD/OMB	Remarks
NON ADP EQUIPMENT				
Crane Truck Mounted 200 Ton Capacity	2	0	2	No change
Asynchronous Transfer Mode High Speed Data Comm	0.5	-0.5	0	NWAD transfer to NSWC
Miscellaneous Non ADPE projects	1.995	-1.58	0.415	Projects cancelled/NWAD transfer to NSWC
SUBTOTAL (NON ADP EQUIPMENT)	4.495	-2.08	2.415	
ADPE and TELECOMM Equip				
Open Systems Environment	0.35	-0.35	0	Project cancelled
WAL ADP Equipment	0.5	-0.5	0	Project cancelled
SUBTOTAL (ADPE/TELECOM EQUIP)	0.85	-0.85	0	
Software Development				
NIFMS Software	0	0.553	0.553	New requirement
SUBTOTAL (SOFTWARE DEVEL)	0	0.553	0.553	
MINOR CONSTRUCTION				
Lightning Protection - B Barricades	0.29	-0.29	0	Change in threshold, now misc
Demolish/Reconstruct Portion of Bldg 4A	0.29	-0.29	0	Change in threshold, now misc
Miscellaneous MInor Construction	0.42	0.23	0.65	Projects cancelled
SUBTOTAL (MINOR CONSTRUCTION)	1	-0.35	0.65	
GRAND TOTAL	6.345	-2.727	3.618	

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVAL AIR WARFARE CENTER
SUMMARY OF OPERATIONS

ACTIVITY GROUP MISSION

The mission of the Naval Air Warfare Center (NAWC) is to be the Navy's full spectrum product center for research, development, test, evaluation, and in-service engineering center for, aircraft weapons integration, assigned airborne electronic warfare systems, naval aircraft engines, avionics, aircraft support systems, weapons systems associated with air warfare (except antisubmarine warfare systems), missiles and missile subsystems and to maintain and operate the air, land, and sea test ranges complex. The Training Systems Division, Orlando is under the management umbrella of the Aircraft Division. However it is funded by an Expense Operating Budget and therefore is not part of this submission.

ACTIVITY GROUP COMPOSITION

Activity Name	Location
Naval Air Warfare Center, Aircraft Division	Lakehurst, NJ
Naval Air Warfare Center, Aircraft Division	Patuxent River, MD
Naval Air Warfare Center, Aircraft Division	Trenton, NJ**
Naval Air Warfare Center, Aircraft Division	St. Inigoes, MD
Naval Air Warfare Center, Weapons Division	China Lake, CA
Naval Air Warfare Center, Weapons Division	Pt Mugu, CA.
Naval Air Warfare Center, Training Systems Div.	Orlando, FL

*Trenton's mission cease date is May 1998; final closure is Dec 1998.
NAWCAD Indianapolis was privatized January 1997. Mission cease was March 1997.

BUDGET HIGHLIGHTS

General

1) Defense Industrial Fund Management System (DIFMS). NAWC has been directed by DoD Comptroller to implement DIFMS. DIFMS has been selected as an interim NWCF migratory accounting system for Navy Research and Development Business Areas. The developmental cost are included in the Capital Budget. Other costs are included in the NWCF operating budget. This budget includes costs for CDA maintenance and operations and of existing DFAS operational functionality.

2) The NAWC is chartered as a NWCF activity and all reimbursable workload is funded and reported through NWCF. However, due to NAWC complex mission a significant portion of the activity's overhead is funded from appropriated sources. Specifically:

a) MRTFB. NAWC Major Range Test Facility Base (MRTFB) funds its general and administrative (G&A) contribution to command overhead and indirect (production) expenses from the institutional funds program element of the Navy RDT&E appropriation.

b) Base Operating Support (BOS). NAWC receives BOS O&M,N funding to pay for Military Support and Common Support to Tenants.

BRAC

BRAC orders and workyears in this budget are as follows:

	FY97	FY98	FY99
Orders	$67.7M	$9.8M	$.9M
Workyears	108	46	30

Stabilized Rates

Stabilized Rates have been set to achieve zero AOR in FY 1999. Rates in FY 97-1999 are increasing. Both FY 1998 and FY 1999 rates include a positive recoupment factor.

	FY 1997	FY 1998	FY 1999
Average Hourly Rate	$73.24	$75.59	$79.95
Stabilized Rate Change (Percent)	--	3.2%	5.8%
Composite Rate Change (Percent)	--	2.7%	3.2%

Unit Cost Goals

The budget reflects the following FY 1997-1999 unit cost goals. Unit Cost increases slightly less than inflation.

	FY 1997	FY 1998	FY 1999
Unit Cost	$83.61	$84.47	$86.17
Percent Change	--	.3%	2.0%

OTHER SIGNIFICANT BUDGET HIGHLIGHTS

Orders. New reimbursable orders required to finance NAWC operations for FYs 1998 and 1999 are $1,988.6M and $2,017.0M respectively. The increase between FY 1998 and FY 1999 is attributed primarily to an increase in funded hours at Aircraft Division.

Revenue. Revenue projections are $1,988.6M in FY 1998 and $2,012.5M in FY 1999. The increase between the years is attributed primarily to increased allocated hours at Aircraft Division.

Costs. Cost of Goods and Services estimates for FYs 1998 and 1999 are $1,968.1M and $2,003.9M respectively.

SUMMARY OF PERSONNEL RESOURCES

	FY97	FY98	FY99
Civilian Personnel:			
End Strength	13,014	12,759	12,418
Workyears w/OT*	14,261	13,263	12,899
Workyears w/o OT	13,810	12,856	12,499
Direct Labor Hours (K)	14,533	13,582	13,358
Military Personnel:			
End Strength	338	357	337
Workyears	365	357	337

The decrease in Civilian End Strength from FY 1998 to FY 1999 reflects a decrease of 341 people as a result of the integration of the Trenton into the NAWC AD, VSIP/VERA at both divisions and a RIF at NAWC AD. VSIP/VERA and Involuntary Separation requirements are budgeted as follows:

	FY 97 Budget	FY 1998 Budget	FY 1999 Budget
No. of VSIP/VERA	392	354	161
Costs ($M)	.932	8.475	3.950
No. Involuntary Sep.	,492	25	175
Costs ($M)	9.032	1.269	5.919

New VSIP/VERA and Involuntary Separation requirements have been identified in FY 1998/1999 in conjunction with continuing efforts to properly size the workforce.

The Involuntary Separation Cost in FY 98 includes 36 employees at Indianapolis which have payments continuing into FY 98 from FY 97.

KEY FINANCIAL OPERATING ASSUMPTIONS ($Millions)

Financial Profile:	FY 1997	FY 1998	FY 1999
Revenue	2,312.993	1,988.635	2,012.570
Direct Cost	1,679.047	1,362.723	1,403.384
Overhead Cost	632.725	605.346	600.472
Total Cost	2,311.772	1,968.069	2,003.856
Revenue less Cost	(13.356)	20.566	8.714
AOR Beginning FY	(15.925)	(29.279)	(8.713)
AOR End FY	(29.282)	(8.713)	0

SUMMARY OF NEW CUSTOMER ORDERS:

($ in Millions)

	FY97	FY98	FY99
Navy Appropriations and Funds:			
O&M,N	$ 360.7	$ 423.5	$ 420.6
R&D	773.3	776.2	845.8
Procurement	383.6	375.7	369.9
Other Navy Customers	37.9	34.6	32.3
Other DoD Customers	404.5	347.7	320.8
Non-DoD Customers	39.7	30.9	27.6
Total All Customers	$1,999.7	$1,988.6	$2,017.0

SUMMARY OF THE CAPITAL PURCHASES PROGRAM

The NAWC Capital Purchases Program (CPP) budget reflects the following requirements (dollars in millions):

	FY 1997	FY 1998	FY 1999
Non-ADP	**15.962**	**15.915**	**15.603**
Equipment	12.929	14.260	14.403
Minor Construction	3.033	1.655	1.200
ADP	**20.058**	**23.204**	**21.407**
ADPE & Telecom	17.114	20.484	20.264
Software Development	2.944	2.720	1.143
Grand Total	**36.020**	**39.119**	**37.010**

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
NAWCDIV / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	2,288.6	1,954.7	1,977.7
Surcharges	.0	.0	.0
Depreciation excluding Major Constructio	24.4	34.0	34.9
Other Income			
Total Income	2,313.0	1,988.6	2,012.6
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	17.4	16.0	16.1
Civilian Personnel	945.8	881.8	881.5
Travel and Transportation of Personnel	55.3	33.0	32.6
Material & Supplies (Internal Operations	284.3	171.0	148.6
Equipment	39.4	34.0	34.4
Other Purchases from NWCF	70.6	30.6	27.7
Transportation of Things	8.3	3.7	3.8
Depreciation - Capital	24.4	34.0	34.9
Printing and Reproduction	4.8	5.1	5.2
Advisory and Assistance Services	1.4	7.1	7.4
Rent, Communication & Utilities	51.1	63.0	61.5
Other Purchased Sevices	809.0	688.9	750.2
Total Expenses	2,311.8	1,968.1	2,003.9
Work in Process Adjustment	14.6	.0	.0
Comp Work for Activity Reten Adjustment	.0	.0	.0
Cost of Goods Sold	2,326.3	1,968.1	2,003.9
Operating Result	-13.4	20.6	8.7
Less Surcharges	.0	.0	.0
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	.0	.0	.0
Net Operating Result	-13.4	20.6	8.7
Other Changes Affecting AOR	.0	.0	.0
Accumulated Operating Result	-29.3	-8.7	.0

Exhibit Fund-14

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NAWCDIV / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	1,999.7	1,988.6	2,017.0
a. Orders from DoD Components	1,802.2	1,810.2	1,858.6
Department of the Navy	1,555.5	1,610.0	1,668.5
O & M, Navy	360.8	423.5	420.6
O & M, Marine Corps	3.1	1.8	1.6
O & M, Navy Reserve	2.2	1.2	1.0
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	224.9	230.5	215.5
Weapons Procurement, Navy	69.9	59.6	57.7
Ammunition Procurement, Navy/MC	13.5	13.7	16.2
Shipbuilding & Conversion, Navy	23.1	27.0	21.0
Other Procurement, Navy	51.2	42.2	57.5
Procurement, Marine Corps	1.0	2.9	1.9
Family Housing, Navy/MC	20.6	19.8	20.2
Research, Dev., Test, & Eval., Navy	773.3	776.2	845.8
Military Construction, Navy	.5	.0	.0
Other Navy Appropriations	11.4	11.7	9.4
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	19.0	17.4	18.4
Army Operation & Maintenence	3.7	2.1	2.1
Army Res, Dev, Test, Eval	6.1	10.3	11.8
Army Procurement	6.4	2.7	2.7
Army Other	2.8	2.3	1.9
Department of the Air Force	48.1	47.1	41.5
Air Force Operation & Maintenence	7.0	6.1	5.0
Air Force Res, Dev, Test, Eval	28.2	25.6	24.8
Air Force Procurement	12.7	11.3	8.8
Air Force Other	.2	4.0	2.9
DOD Appropriation Accounts	179.5	135.7	130.2
Base Closure & Realignment	67.7	9.8	.9
Operation & Maintence Accounts	16.1	15.7	15.7
Res, Dev, Test & Eval Accounts	65.2	64.8	70.3
Procurement Accounts	31.2	42.8	40.9
DOD Other	-.6	2.6	2.3
b. Orders from NWCF Business Area	82.7	70.4	63.8
c. Total DoD	1,884.9	1,880.6	1,922.3
d. Other Orders	114.8	108.0	94.7
Other Federal Agencies	14.0	15.4	14.2
Foreign Military Sales	75.1	77.1	67.0
Non Federal Agencies	25.8	15.5	13.4

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NAWCDIV / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	838.0	524.7	524.6
3. Total Gross Orders	2,837.7	2,513.3	2,541.7
4. Funded Carry-Over **	524.7	524.6	529.1
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	2,313.0	1,988.6	2,012.6

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

CHANGES IN COST OF OPERATIONS
DEPARTMENT OF THE NAVY
BUSINESS AREA: NAVAL AIR WARFARE CENTER
(DOLLARS IN MILLIONS)

1.	FY 1997 Current Estimate	2,311.8
2.	FY 1998 President's Budget	1,780.3
3.	Pricing Adjustments	-4.3
4.	Productivity Initiatives & Other Efficiencies	0.0
5.	Program Changes:	155.2
a.	Joint Strike Fighter, Test & Evaluation Support, F/A-18, Ship & Aircraft Support	67.0
b.	Air Ops and Safety Support, Equip. & Weapons Maintenance, Air Systems Spt, Shorebased Ops	38.8
c.	FMS, Army, NWCF, P-3 Series Mod	35.0
d.	MRTFB, AVDLR,Tactical Airborne, AV-8B	10.9
e.	Target Systems Development, AIM-9X, F-14, FA/18, TOMAHAWK	3.5
6.	Other Changes in:	36.9
a.	Contracted Equipment & Facility Maintenance	23.9
b.	ADP Services/Support	11.2
c.	Impact of Indy Privatization	8.9
d.	Purchased Utilities Expense	8.4
e.	Impact of Revised FY 97 Estimates	7.8
f.	Depreciation	4.2
g.	VSIP/VERA	3.5
h.	Training/Tuition	3.1
i.	Team Workload Planning System	1.9
j.	Printing & Reproduction	0.5
k.	Rents & Leases	-0.2
l.	Travel	-4.7
m.	Communications	-4.9
n.	Revised DFAS Costs	-0.9
o.	Bids and Proposals	-1.5
p.	Material and Supplies	-1.7
q.	BRAC	-11.3
r.	Other Contracts	-11.3
7.	FY 1998 Current Estimate	1,968.1

CHANGES IN COST OF OPERATIONS
DEPARTMENT OF THE NAVY
BUSINESS AREA: NAVAL AIR WARFARE CENTER
(DOLLARS IN MILLIONS)

7.	FY 1998 Current Estimate	1,968.1
8.	Pricing Adjustments	36.7
a.	Annualization of Prior Year Pay Raises	6.1
b.	FY 1998 Pay Raise	20.3
	(1) Civilian Personnel	19.9
	(2) Military Personnel	0.4
c.	Stock Fund - Fuel	-1.9
d.	Stock Fund - Nonfuel	-0.6
e.	Industrial Fund Purchases	0.3
f.	General Purchases Inflation	12.5
9.	Productivity Initiatives & Other Efficiencies	-0.3
a.	Indianapolis Closeout Billet Reduction	-0.2
b.	Instrumentation upgrade (WSL)	-0.1
10.	Program Changes:	22.1
a.	Joint Strike Fighter, ASW System Development, Standards Development, Shipboard Aviation Systems, ASW and Other Helo Development, Acoustic Search Sensors, EW Development, F/A-18 Squadrons, E-2 Squadrons	43.7
b.	Engineering Support	6.4
c.	AIM-9X, V-22	5.4
d.	Practice Bombs	1.4
e.	Family Support, MWR & Child Development	0.9
f.	Targets Systems Development, Advanced Rocket System	-3.4
g.	Misc Engrg/LogisticsSupport	-0.3
h.	MRTFB, AV-8B	-6.4
i.	S-3 Series Mod, F-18 Series	-6.8
j.	CVN Replacement, Shipboard Air Traffic Control	-8.9
k.	EA-6B Mods, F-14 Mods, F-18 Mods	-9.9

CHANGES IN COST OF OPERATIONS
DEPARTMENT OF THE NAVY
BUSINESS AREA: NAVAL AIR WARFARE CENTER
(DOLLARS IN MILLIONS)

11.	Other Changes in:	-22.8
a.	Contracted Equipment & Facility Maintenance	3.7
b.	Depreciation Expense	1.0
c.	ADP Support Services	-0.3
d.	Purchased Communications	0.3
e.	Travel	-0.6
f.	Purchased Utilities	-2.8
g.	BRAC	-8.9
h.	Revised DFAS Costs	-1.1
i.	Bids and Proposals	-0.5
j.	NAWS Transfer Contract Costs	-0.5
k.	Other Contracts	15.9
l.	Overhead Contracts	-29.0
12.	FY 1999 Current Estimate	2,003.8

Capital Budget Summary
Non-ADP Program - Submit
Department of the Navy
Research and Development - Naval Air Warfare Center
($ in Millions)

ITEM LINE #	ITEM DESCRIPTION	FY 1997 QTY	FY 1997 TOTAL COST	FY 1998 QTY	FY 1998 TOTAL COST	FY 1999 QTY	FY 1999 TOTAL COST
	1a. EQUIPMENT, OTHER THAN ADPE & TELECOM (>$500K)						
	Replacement						
4 W E 7 EL 4002 R	AMES II THREAT SIMULATOR	1	1.549				
4 W D 7 EL 0502 R	INSTRUMENTATION UPGRADE (WSL)	1	.687	1	.790		
4 W D EL 0005 R	P369 MILCON COLATERAL EQUIPMENT	1	.160				
4 W D 8 EL 6027 R	IMAGING SEEKER SIMULATION SYSTEM			1	1.000		
4 A A 8 EL 4551 R	SYNTHETIC APERTURE RADAR MOTION COMPENSATIO			1	.775		
4 A B 8 EL 6608 R	CNC MACHINING CENTER			1	.755		
4 A A 8 EL 4440 R	500 HP DRIVE STAND			1	.533		
4 A B 9 EL 4812 R	CATAPULT HYDRAULIC SYSTEM FLEET STANDARDIZA					1	1.900
4 A A 9 EL 4440 R	ELECTRICAL POWER SYSTEM/ENV. TEST REPLACEMEN					1	1.100
4 A A 9 EL 4410 R	UNMANNED AIR VEHICLE ALTITUDE FACILITY UPGRAI					1	.600
4 A A 9 EL 4450 R	F & L LABORATORY UPGRADE					1	.540
4 A A 9 EL 4500 R	AVIONICS ANALYSIS SYSTEM					1	.516
	Productivity						
4 W D 3 EL 0010 P	CONCURRENT ENGINEERING WORKGROUP	1	1.526	1	.500		
4 W D 3 EL 0007 P	MISSION PLANNING / DIGITAL IMAGING W/S	1	1.000	1	1.000	1	1.000
4 A A 7 EL 0411 P	AEGIS COMBAT COMPUTER SYSTEM	1	.978				
4 A A 8 EL 4460 P	HELICOPTER DRIVE TRAIN FACILITY			1	.950		
4 A A 8 EL 4611 P	DYNAMIC CREW SYSTEM INTEGRATION EVAL. FACILIT			1	.726	1	.560
4 W D 9 EL 8002 P	SURFACE ANALYSIS INITIATIVE					1	.950

Capital Budget Summary
Non-ADP Program - Submit
Department of the Navy
Research and Development - Naval Air Warfare Center
($ in Millions)

ITEM LINE #	ITEM DESCRIPTION	FY 1997 QTY	FY 1997 TOTAL COST	FY 1998 QTY	FY 1998 TOTAL COST	FY 1999 QTY	FY 1999 TOTAL COST
	New Mission						
4 A A 6 EL 0014 N	ELECTRICAL SYSTEM DEPT/ENVIRONMENTAL TEST UP	1	.533				
4 A A 9 EL 4322 N	SIDE BY SIDE MULTIPLE RECONFIGURABLE COCKPIT					1	.995
	SUBTOTAL EQUIPMENT, OTHER THAN ADPE & TELECO		6.433		7.029		8.161
N ES 0000	**1b. EQUIPMENT, OTHER THAN ADPE & TELECOM (<$500**		6.496		7.231		6.242
	2. GRAND TOTAL EQUIPMENT, OTHER THAN ADPE & TE		12.929		14.260		14.403
N M(0000	**3. MINOR CONSTRUCTION**		3.033		1.655		1.200
GRAND TOTAL NON-ADP CAPITAL PURCHASES PROGRAM			15.962		15.915		15.603

FUND-9A

Capital Budget Summary
ADP Program - Submit
Department of the Navy
Research and Development - Naval Air Warfare Center
($ in Millions)

ITEM LINE #	ITEM DESCRIPTION	FY 1997 QTY	FY 1997 TOTAL COST	FY 1998 QTY	FY 1998 TOTAL COST	FY 1999 QTY	FY 1999 TOTAL COST
	1a. ADP & TELECOMMUNICATIONS EQUIPMENT (>$500K)						
	Computer Hardware (Production)						
4 W D 7 KL 6152 R	SIGNAL PROCESSING SYSTEM	1	1.949	1	2.005	1	1.000
4 A B 7 KL 4820 R	CAD II CONCURRENT ENGINEERING	1	1.814				
7 A A 7 KL 0011 R	ELECTRONIC ARCHIVING	1	.986				
4 W D 4 KL 0401 R	COMPETITIVE ENGINEERING ENVIRONMENT	1	.833	1	1.250	1	.700
8 W D 6 KL 0517 P	GEOGRAPHIC INFORMATION SYSTEM (GIS)	1	.651				
4 A A 7 KL 0751 R	OPEN ARCHITECTURE AVIONICS	1	.550				
4 W D 7 KL 6014 R	SURVIVABILITY DIVISION COMPUTER SYSTEM	1	.540	1	.352		
4 A A 7 KL 0411 P	VIPER SYSTEM	1	.520				
4 W D 7 KL 6171 R	RAPID PROTOTYPING ENV FOR REAL/TIME SYS	1	.500	1	.865	1	.800
7 A A 8 KL 7233 R	DMS TECHNOLOGY INSERTION			1	3.083	1	3.149
4 A A 8 KL 4133 R	ASQ-212/222 LABORATORY COMPUTER			1	.750		
7 A A KL ### R	STANDARD PROCUREMENT SYSTEM			1	.679		
4 A A 8 KL 4300 P	COMPUTER FOR COMPUTATIONAL ANALYSIS			1	.650		
8 A A 9 KL 8013 N	CAD II					1	.500
	Telecommunications						
7 W D 3 TL 0084 R	COMMUNICATION SYSTEM UPGRADE	1	1.680	1	1.450	1	1.300
7 A A 7 TL 0723 R	FIBER OPTIC TRANSMISSION EQUIPMENT	1	2.473	1	1.750	1	1.250
7 A A TL ### R	FIBER OPTIC/PHONE SUB DISTRIBUTION			1	2.119	1	4.104
8 A A 8 TL 81D(R	PREMISES DISTRIBUTION			1	.750	1	.750
7 W D 8 TL 8006 R	FIBER OPTIC BRANCHING			1	.575	1	.500
7 A B 9 TL 7000 R	BASE TELEPHONE SWITCHING SYSTEM					1	2.575
	SUBTOTAL ADPE & TELECOMMUNICATIONS (>$500		12.496		16.278		16.628

Capital Budget Summary
ADP Program - Submit
Department of the Navy
Research and Development - Naval Air Warfare Center
($ in Millions)

ITEM LINE #	ITEM DESCRIPTION	FY 1997 QTY	FY 1997 TOTAL COST	FY 1998 QTY	FY 1998 TOTAL COST	FY 1999 QTY	FY 1999 TOTAL COST
N N KS 0000	**1b. ADPE & TELECOMMUNICATIONS (<$500K)**		4.618		4.206		3.636
	2. GRAND TOTAL ADPE & TELECOMMUNICATIONS		17.114		20.484		20.264
N N DL 0000	3a. SOFTWARE DEVELOPMENT (>$500K) DIFMS/NIMMS IMPLEMENTATION & OSE REENGIN	2	2.944	2	2.558	2	.687
	SUBTOTAL SOFTWARE DEVELOPMENT (>$500K)		2.944		2.558		.687
N DS 0000	**3b. SOFTWARE DEVELOPMENT (<$500K)**		.000		.162		.456
	3. GRAND TOTAL SOFTWARE DEVELOPMENT		2.944		2.720		1.143
	GRAND TOTAL ADP CAPITAL PURCHASES PROGRAM		20.058		23.204		21.407

Capital Budget Summary
Department of the Navy
Research and Development - Naval Air Warfare Center
($ in Millions)

	ITEM DESCRIPTION	FY 1997 TOTAL COST	FY 1998 TOTAL COST	FY 1999 TOTAL COST
	GRAND TOTAL NON-ADP CAPITAL PURCHASES PRO(	15.962	15.915	15.603
	GRAND TOTAL ADP CAPITAL PURCHASES PROGRAM	20.058	23.204	21.407
	GRAND TOTAL CAPITAL PURCHASES PROGRAM	36.020	39.119	37.010

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. INSTRUMENTATION UPGRADE (WSL) 4WD7EL0502PR

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0	1	687	687	1	790	790			0

OPERATIONAL DATE 1-Dec-98

METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$1,154,230	$59,500	$1,213,730
AVERAGE ANNUAL SAVINGS (Discounted)	$709,224	$36,560	$745,785
PAYBACK PERIOD	1.4	NA	1.4
RATE OF RETURN (ROR)	48%	2%	51%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.
The Weapons Survivability Laboratory (WSL) test instrumentation and control system will enable the WSL to meet the test and schedule requirements of critical congressionally mandated Live Fire Testing (LFT) for new military acquisitions such as the V-22, F/A-18 E/F and the AH-1/UH-1 Four Blade Upgrade. It consists of instrumentation amplifiers, instrumentation tape recorders, digital oscilloscopes, transient data recorder, vibration measurement system, ordnance firing sequencer, test video titler, test and safety video hardware, high speed cameras and color video systems, instrumentation bay interconnections, and transducer measurement hardware.
(Please see continuation sheet.)

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?
The Weapons Survivability Laboratory (WSL) is a unique facility that conducts survivability.testing for all three services and in support of industry to test and record empirical data on the vulnerability of aircraft to actual threats. The WSL performs all of the Navy's and some of the Air Force's and Army's aircraft survivability testing. It has the capability to perform LFT of up to full scale transport aircraft. This purchase is required to replace/upgrade 60 percent of the aging instrumentation and control systems at the WSL. Half of the WSL's equipment has reached or will reach in the next few years the end of its useful life. One of the two instrumentation bays at the main test site is no longer operational. This has resulted in the WSL being unable to support tests with more than 50 instrumented channels. It has also caused the inability to setup the instrumentation for one test program while another program is testing. The schedule delays caused by performing these operations sequentially instead of simultaneously result in increased testing costs and fewer projects tested per year. The remainder of the old equipment is in such bad shape that it has repeatedly been responsible for lost test data, lost high speed photo coverage and erratic ordnance firings. This has seriously affected the ability of the WSL to support its test programs. The WSL is frequently faced with the problem of not having the right equipment for its test instrumentation tasks, attempts to substitute equipment usually result in compromised quality at significantly increased setup time and cost.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
Transferring the workload and tests to another site was considered, but it was ruled out due to the great expense that would be required to reconstruct the unique WSL test assets at another facility.
Customers have been asked to pay and some have made contributions, but a majority of the small scale test programs cannot afford to purchase high dollar equipment that may be 2 or 3 times the original testing budget.
Leasing the required equipment was also considered, This was also ruled out due to cost, It would cost $620K per year to lease the test equipment and over the life of the equipment would cost $6M to $8M more than the proposed method.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?
The F/A-18 E/F LFT, V-22 LFT and UH-1 / AH-1 4 Blade upgrade LFT project test engineers have been consulted and they all agree that the proposed solution is the best solution. Each of these programs has or will contribute to the solution, but they cannot be expected to cover all of the costs since they occupy the test pads roughly only 60% of the available time.

5. IMPACT IF NOT ACQUIRED.
If this equipment is not acquired the WSL will not be able to conduct simultaneous test events which means continued test delays and lost revenue for the NAWCWPNS and the WSL. The WSL will lose up to $1M per year in testing revenues. Productivity at the WSL will fall due to increasing overhead and downtime until testing costs are out of sight. The WSL will be forced to continue to operate with less than half of its required instrumentation capability and programs with large instrumentation requirements cannot be supported. Quick changes from one project to the next cannot be done because one test cannot be setup while another is testing. Old equipment will continue to lose or produce compromised data. The hard earned reputation of the WSL as a quick response competitively priced test facility will be lost.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT Not Applicable.

NARRATIVE CONTINUATION SHEET:
1. DESCRIPTION CONTINUED

The instrumentation amplifiers are required to condition all instrumentation channels at the WSL because of the long distance from the test pads to the instrumentation recording equipment. They are the single most critical element in the test instrumentation process. These amplifiers are used to remove noise picked up in the long lines. They amplify low level signals, filter unwanted frequencies, provide transducer excitation and distribute the data to meters, recorders, data loggers, and computers.

The instrumentation tape recorders are wide band recorders used to record nearly all test data at the WSL. They are used for both data acquisition and data reduction. By themselves, they are used for the recording of small numbers of high speed instrumentation channels. Used with multiplexers, they are used to record large numbers of low to medium speed instrumentation channels.

Another critical item in the instrumentation process at the WSL is the digital oscilloscope. They are used in all phased of instrumentation and data reduction. Specifically they are used for:
a. verifying proper operation of instrumentation setups
b. calibration of instrumentation channels
c. real time high speed data acquisition
d. instrumentation channel debugging and noise reduction
e. quick look data assessment which allows project engineers to make quick decisions between tests
f. data reduction.

The Transient Data Acquisition component of the system will allow the acquisition of 32 channels of high speed test data. Current and future LFT programs and other customers are very interested in high speed data such as fuel tank hydraulic ram over pressures and high speed strain gauge measurements. Traditional methods of recording these parameters with tape recorders results in relatively noisy and inaccurate data. Transient data recorders use digital data acquisition and storage which results in both high accuracy and no inherent noise in the recording process. In addition, transient recorders are expandable to many more recordable channels the tape recorders.

The Vibration Measurement component consists of the equipment required to instrument up to 8 channels of jet engine vibration in a destructive test environment. Vibration measurements are required on nearly all jet engine tests and on many tests of equipment in high speed airflow. The system will include:
a. local signal conditioning to allow long instrumentation lines to the recording equipment.
b. tracking filters which can monitor only critical frequency components and reject other noise sources.
c. data analysis equipment to allow spectral response displays of acceleration, velocity or displacement.

The ordnance firing sequencer is an event timer used to automatically sequence operations during a test. It is used to fire ordnance and to automatically control high speed cameras and test specimen controls.

The Test Video Titler will be used for inserting test information, data and timing information into 12 channels of test video. The system is used to add the following types of information to test video:
a. test title, date and test number
b. standard IRIG B time display
c. Elapsed time display
d. critical test data values (e.g.. temp, pressure, air speed)

The Test Safety Video System consists of 8 cameras, lenses, enclosures, tripods, video recorders, monitors and remote controls. Video at the WSL is used extensively for test data coverage. It is also used during every test for safety video coverage of ordnance handling and loading operations.

Three High Speed Film Cameras and the high speed color video system will record test events at speeds of up to 20,000 frames per second and will be used extensively to provide a clear picture of fast events such as projectile and fragment impacts, explosive detonations, stores ejection, fuel tank fires and high speed airflow tests. The direct visual impact high speed film coverage of these events is frequently the single most useful data that is acquired at the WSL.

The Instrumentation Bay Cable Interconnection System consists of 5 patch panels which allow interconnection of signal wires and the various equipment used for data acquisition. The use of patch panels allows instrumentation equipment to be interconnected in such a way that the exact requirements of any test can be met. Spare patch panel plug boards allow setups to be saved for future use saving countless hours of re-setup.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. IMAGING SEEKER SIMULATION SYSTEM 4WD8EL6027PR

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	1,000	1,000			0

OPERATIONAL DATE 30-Apr-98

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$363,000	$0	$363,000
AVERAGE ANNUAL SAVINGS (Discounted)	$223,048	$0	$223,048
PAYBACK PERIOD	3.4	#DIV/0!	3.4
RATE OF RETURN (ROR)	22%	0%	22%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

The Infrared (IR) Scene Generator generates an infrared scene and presents it to the infrared scene projector which then projects an infrared scene which includes targets, countermeasures, and backgrounds to the unit under test. These scene features are replicated in the infrared scene projection system to be much like the seeker would see in the real world. The resolution, dynamic range, field-of-view, infrared band, and scene frame rate must all be compatible with the seeker/guidance or other unit under test. This type of system can repeat the same tests over and over again; this allows the engineers to find and correct problems without their having to worry about variables within the presented information as would be encountered in the real world. The device consists of a massive computer engine with the graphics and rendering engines necessary to support a hardware-in-the-loop (HWIL) test with only one frame of data latency. At 100 Frames per Second, with a 512 X 512 pixel array, and 12-bit resolution, this requires generating and transferring over 300 million bits of data across the interface per second. This kind of data generation requires multiple parallel processors to calculate the changing target(s), backgrounds, countermeasures, and atmospheric effects in the scene and keeping track of where the seeker is looking from frame to frame. It does this on a quarter of a million pixels 100 times per second at 12 bit resolution. It also must keep track of large pieces of terrain data base and page in and out adjacent sections of data base as they are required by the simulation.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

Modern infrared seekers/guidance units require advanced capability test facilities to fully test newly developed hardware and software. Testing in a controlled laboratory environment offers the least expensive method for fully understanding the capabilities of the system being tested before this system is exposed to the significantly more expensive rigors of field and/or flight testing. Systems such as the Rolling Airframe Missile (RAM) , Sidewinder, AIM 9X, the Missile Homing Improvement Program which is being included in both the Sparrow AIM 7R and the Standard Missile Block 4A will need such advanced test facilities. Each time the software is changed in these re-programmable guidance processors, this extensive testing must be repeated. With the implementation of IR scene generation and projections in the HWIL simulation facility, more of this expensive test burden that previously had to be performed in the real world can be done in the hardware-in-the-loop laboratory test arena. This shift of the test burden to the analytic simulation side of the test and evaluation program will lower the acquisition cost. As the validation, verification, and accreditation proceeds, the confidence in the testing will be such that the overall technical evaluation (TECHEVAL) and operational evaluation (OPEVAL) live fire testing can be reduced.

The deficiency being addressed is the availability of accurate, up-to-date threats for the testing of Navy tactical aircraft. The increase in the time and cost of testing due to development time of threats not currently in the system is prohibitive.

In reviewing our methodology for cost factors and in determining our projected cost avoidance to be realized from the purchase of the IR scene generator, it was assumed that the Present Method represented those costs which would be incurred if the item were not purchased, e.g. the programmatic requirement would be for three man-years if we did not have the scene generator and would involve only two man-years with it. Further, the technical requirement would necessitate contracting out for the scene generation which would add contract, materials, facilities, and travel costs. The maintenance costs shown assume that we have the system at the standard rate of expense and those costs are not shown in the first column because they would be borne by the contractor.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

At the present time there are no known alternatives to the IR Scene projection technology other than live-fire testing in a real world environment which is currently done at great cost. Live firings will always be required but the advent of this technology will reduce the required number of firings.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?

A tremendous amount of energy has been expended talking with the customers. We have worked to obtain as much information on our customer's missile systems, test scenarios, and testing requirements as is known and defined at this time. We have worked with Sidewinder AIM-9X, Rolling Airframe Missile (RAM), and the Standoff Land Attack Missile - Expanded Response (SLAM-ER). In addition, there are two special access projects that want this increased capability

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. SYNTHETIC APERTURE RADAR MOTION COMPENSATION & REG. SYS. 4AA8EL4551PR

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	775	775			0

OPERATIONAL DATE 1-Apr-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$170,000	$74,500	$244,500
AVERAGE ANNUAL SAVINGS (Discounted)	$104,458	$45,777	$150,235
PAYBACK PERIOD	6.4	NA	4.0
RATE OF RETURN (ROR)	13%	6%	19%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

The Advanced Multiband Polarimetric Synthetic Aperture Radar (SAR) Processing System is a hardware and software system component upgrade/replacement that is required to keep the NAWC P-3 SAR laboratory's processing capability in step with recent sponsor funded system improvements. This procurement includes a required high speed interface upgrade to the High Density Digital Recorder, additional internal memory (RAM) for the Silicon Graphics Onyx workstation, additional mass storage (Winchester and Magneto-Optical disc capacity) for image data storage, a networked satellite workstation/terminal to the Onyx, and application specific software for radar image formation, manipulation, formatting, analysis, storage/retrieval, and geocodir of tactical surveillance data to fixed earth coordinates (lat/long, etc.). All components requested in this CPP are required for project work in FY98 to be funded primarily by ONR and ARPA.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

Installation of this equipment and software will provide essential enhancements of the P-3 SAR laboratory to process multiband polarimetric SAR (POLSAR) data as well as data from other related radar/Electro-Optical (EO) projects within the 4.5.5 Avionics Radar and EO Competency areas. The system will provide for a much-needed faster data transfer capability from the Honeywell 101E HDDR to the host workstation (required for the new P-3 SAR UWB-UHF mode upgrade), a more efficient an cost effective means of extracting, processing, manipulating, and statistically analyzing sensor data, and a more flexible and modern means of transferring data products to a variety of media formats to match user needs.

This approach to providing the required improvements in the P-3 SAR laboratory replaces aging and inefficient equipment currently used to perform the above tasks; and, in the case of the new P-3 SAR Ultra-Wideband UHF mode (UWB/UHF), provides a critically needed capability where none currently exists, all at significantly reduced operating and maintenance cost. This approach also eliminates the inappropriate use of the HPC Center for routine UWB data processing, posting a potential savings of up to $90,000 per year. The existing equipment is over 12 years old and is currently operating in a degraded status, is extremely expensive to maintain, is growing increasingly unreliable, and in some cases is unable to provide required capabilities. The upgraded laboratory, when completed, will provide significantly improved throughput, will provide capabilities which are required to meet current and new sponsor needs in FY98: capabilities currently unavailable with the existing system will provide an important cost impact in the process.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

The alternatives to the upgrades described above would be to continue operating with degraded equipment, forcing NAWCAD and sponsors to go to outside contractors for data processing needs.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes

5. IMPACT IF NOT ACQUIRED.

Without this upgrade to the SGI Onyx Workstation-based P-3 SAR laboratory, the facility will be unable to provide NAWC-AD with an Ultra WideBand UHF (UWB/UHF) processing capability nor similarly data intensive sensor processing capability. This functionality is currently at the forefront of Joint 6.2 littoral surveillance R&D with the NAWC-AD P-3 being the only DoD platform with such high resolution, polarimetric, UWB/UHF radar imaging capability. Furthermore, this upgrade is required to provide cost effective SAR data processing and management facility for producing SAR imagery in all four bands and all operating modes as well. The upgraded capability is required in order to avoid jeopardizing the continued sponsorship of ARPA and ONR, and to avoid limiting sponsorship/funding by other agencies who would use of the P-3 SAR's advanced multiband/multimode sensor capabilities. It is expected that extensive R&D efforts in subsequent years will benefit, particularly as planned Navy and ARPA funded system improvements during this period will keep the P-3 SAR test bed on the cutting edge of Joint 6.2 radar imaging technology efforts. The capability which the completed laboratory system will provide is considered a cornerstone in the Tactical Radar Systems competency area (45512) for radar imaging within the new NAVAIR/NAWC competency aligned organization. Discussions are also underway to provide other related radar and infrared sensor processing capability as required. These include the ONR funded Airborne Early Warning Project and the SASSY (Shared Aperture Sensor System) IR project.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT: N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. CNC MACHINING CENTER 4AB8EL6608PR

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	755	755			0

OPERATIONAL DATE 1-Jun-00

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$200,330	$0	$200,330
AVERAGE ANNUAL SAVINGS (Discounted)	$123,094	$0	$123,094
PAYBACK PERIOD	5.0	#DIV/0!	5.0
RATE OF RETURN (ROR)	16%	0%	16%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

THIS SUBMISSION IS A COMPUTER NUMERICAL CONTROLLED (CNC) MACHINING CENTER. THE CNC MACHINING CENTER PERFORMS PRECISION, TIGHT-TOLERANCE, AND METAL CURRING. OPERATIONS INCLUDE DRILLING, REAMING,A ND BORING HOLES, SLOTTING CONTOURING, AND PRECISION MACHINING OF SURFACES. THIS TYPE OF PRECISION MACHINING IS REQUIRED FOR COMPONENTS WHICH WORK IN ASSEMBLIES SUBJECTED TO HIGH STRESS USAGE.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

EXISTING MACHINE, KINGSBURY CNC VERTICAL, MODEL VMC-960, IS IN CONSTANT USE AND REACHING THE END OF ITS USEFUL LIFE. THE INCREASING FREQUENCY AND SEVERITY OF DOWNTIME FOR MAINTENANCE NEGATIVELY AFFECTS SCHEDULING AND WORKLOAD.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

LEASING OF THIS EQUIPMENT IS NOT A FEASIBLE OPTION.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? YES

5. IMPACT IF NOT ACQUIRED. THE CURRENT MACHINE HAS EXCEEDED ITS USEFUL LIFE EXPECTANCY, AND IS CAUSING DOWNTIME TO INCREASE. THE LACK OF AVAILABILITY DUE TO DOWNTIME IS REQUIRING THE MOVEMENT OF WORK TO SMALLER MACHINING CENTERS, WHEN FEASIBLE, DISRUPTING SCHEDULING OF OTHER WORK. THIS SUBMISSION, HOWEVER, IS THE ONLY VERTICAL MACHINING CENTER OF SUFFICIENT SIZE TO PERFORM THE NECESSARY TESTING OF COMPONENTS. WITHOUT THIS EQUIPMENT DELAYS IN MANUFACTURE AND DELIVERY OF CRITICAL COMPONENTS WILL CONTINUE TO OCCUR AS WELL AS, SUPPORT TO ALL CUSTOMERS.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. 500 HP DRIVE STAND

4AA8EL4440PR

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	533	533			0

OPERATIONAL DATE 31-Dec-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$94,402	$0	$94,402
AVERAGE ANNUAL SAVINGS (Discounted)	$58,006	$0	$58,006
PAYBACK PERIOD	8.7	#DIV/0!	8.7
RATE OF RETURN (ROR)	11%	0%	11%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

This submission is to replace the current, 25 year old, 300 Horsepower drive stand which does not meet the requirements for testing proposed aircraft generators. A 500 HP drivestand will provide a new capability to test the next generation aircraft generator at loads up to 540KVA. The drivestand will consist of a 500HP motor, controls and instrumentation, load bank, and gearbox assembly.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

The largest drivestand located at the Electrical Power Systems Division is 300 HP. This drivestand is adequate for existing aircraft generator testing, but will not meet requirements for proposed new aircraft generators. Near term aircraft such as the F/A-18E/F, E-2C Upgrade and JSF are already projecting aircraft in excess of 90 KVA which is the largest rating in the Navy inventory. Next generation aircraft such as the EX (E-2C replacement) are predicting generating systems greater than 500 KVA To meet these needs for testing aircraft generators, a 500HP drivestand is needed near term.

The upgrading of obsolete equipment, increased capability, and automation will permit the department to remain state of the art and accomplish its assigned mission. These upgrades will result in higher quality, and increased accuracy and efficiency in electrical power system testing. In addition, these upgrades will permit the department to remain an independent DOD test laboratory.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? No contracting or leasing exists for this equipment. The only alternative would be status quo which will eventually cause a deterioriation in support to customers.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes

5. IMPACT IF NOT ACQUIRED.

The Electrical Power Systems Division is the only DOD test and evaluation activity with the capability to conduct full qualification testing of aircraft electrical power systems. Without the 500 HP drivestand we will not be able to test the increased capacity generators proposed for new aircraft designs.

Without the above upgrades and replacements the Electrical Power Systems Division facility improvements will be postponed causing the facilities to become obsolete and its usefulness to deteriorate.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. CATAPULT HYDRAULIC SYSTEM FLEET STANDARDIZATION 4AB9EL4812GR

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	1,900	1,900

OPERATIONAL DATE 1-Jul-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$765,500	$0	$765,500
AVERAGE ANNUAL SAVINGS (Discounted)	$470,367	$0	$470,367
PAYBACK PERIOD	3.0	#DIV/0!	3.0
RATE OF RETURN (ROR)	25%	0%	25%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The mission of the TC13 Catapult Test Site is to duplicate shipboard configurations, thus permitting the investigation of existing fleet problems and evaluation of proposed improvement/high-risk development problems in a safe, cost effective environment utilizing unmanned deadload vehicles. In order to align the Fleet Support test capability of the TC13 catapult, with current aircraft carrier launcher configurations, the incorporation of a full Rot Retraction Engine/Hydraulic System is required. The system will consist of a Rotary Retraction Engine, Vertical Hydraulic Accumulator, Spherical Air Flask, Central Charging Panel and Gravity Tank.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? NT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The current system does not meet the standardization needed to perform the needed shipboard configurations, permitting the investigation of existing problems. The incorporation of the hydraulic change provides the required Fleet/site and system/sub-system environment standardization. Additionally the stock system support of the dated hydraulic supply system currently used on the TC13 site will disappear when the remaining fleet carriers using this type of system are removed from service by 1998, therefore rendering the system obsolete. The maintenance of such an obsolete system would be ineffective.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? None, the only alternative is status quo which will undermine our effectiveness, degrade critical support to the fleet and incur high labor and material costs trying to maintain an obsolete catapult system.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes.

5. IMPACT IF NOT ACQUIRED.
The failure to provide the above change to the TC13 hydraulic system will contribute to a decline in Fleet support capability. The TC13 has supported Fleet problem investigations through duplication of the affected configuration. Fleet modernization without parallel standardization of its support facility, will inevitably contribute to a mission compromising gap. The stock system support for the system at the TC13 will cease in 1998.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. Not Applicable

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. ELECTRICAL POWER SYSTEM/ENV. TEST REPLACEMENT
4AA9EL4440PR

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0			0	1	1,100	1,100

OPERATIONAL DATE	31-Dec-00		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$379,250	$0	$379,250
AVERAGE ANNUAL SAVINGS (Discounted)	$233,033	$0	$233,033
PAYBACK PERIOD	3.6	#DIV/0!	3.6
RATE OF RETURN (ROR)	21%	0%	21%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. This submission is to replace the current dust chamber, power amplifiers, the combined temperature/humidity/vibration chambers, and the temperature/altitude walk in chamber. The dust chamber will provide sand abrasion and dust penetration testing on aircraft electrical power systems. The solid state amplifiers would provide clean, low noise level power to the vibration shakers for precise test level control. The combined chambers will provide simultaneous environments for reliability testing of aircraft electrical power systems. The new vacuum train will provide advanced automated controls and safety interlocks and be capable of operating 24 hours per day. The system would consist of five vacuum pumps, five water to air heat exchangers, all associated pumping and a digital control system.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

Dust Chamber - The existing dust chamber is over 25 years old and is not capable of providing the blowing sand test described in MIL-STD-810E. These tests evaluate the ability of equipment to withstand the abrasion and penetration by sand particles, which is particularly crucial in desert climates. The existing chamber has no provision for suspending the dust in the air stream which creates the need to re-fill the dust hopper frequently during a test. In addition, the chamber uses an air cooled condenser on the refrigeration system, which blows the silica dust about the test laboratory. This causes unnecessary additional personnel exposure to the silica dust used in the test. The new chamber will operate more efficiently, provide a cleaner room environment and require less exposure to the silica dust than the existing chamber.

Power Amplifiers - The existing amplifiers are very old vacuum tube amplifiers with a high noise level which makes control at low test levels extremely difficult if not impossible. The vacuum tubes for the existing amplifiers are no longer manufactured and a replacement would require an extremely expensive "one of a kind" manufacture. Solid state amplifiers would provide highly reliable, "clean power" with much less maintenance required. The existing amplifiers require frequent removal and cleaning of the vacuum tubes, which in a high voltage environment is a hazardous undertaking. Also, solid state amplifiers with modern safety devices would also enhance personnel safety. (See Attached Sheet)

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? Status Quo is the only alternative; which will eventually result in inefficient operations and affect our performance and quality of work to our customers.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes.

5. IMPACT IF NOT ACQUIRED. Dust Chamber- Failure to replace the dust chamber will continue the inability to conduct blowing sand tests and continually require personnel to be exposed to hazardous material while loading and cleaning the chamber. Desert Storm placed great emphasis on the need for realistic blowing sand testing. As the current chamber ages further repair becomes more time consuming, reliability lessens and replacement parts become extremely difficult to obtain. A catastrophic failure from fatigue would result in the inability to conduct any form of dust or sand testing.

Power Amplifiers- Any failure of the power amplifiers involving the vacuum tubes would result in the inability to conduct vibration tests in the MB Vibration Laboratory until a replacement amplifier was procured. The loss of this capability would significa[ntly] reduce our capacity for accepting vibration testing requests and would adversely effect scheduling flexibility.

Combined Chambers- Replacement parts are difficult to change and may be unavailable in the near future. The inability to effective maintain the chambers will create work stoppage and perhaps the complete loss of the ability to conduct combined environmental testing. In addition these chambers refrigeration system operates on ozone depleting refrigerants which are being phased out. If we are unable to convert to another refrigerant the capability will be lost. (See Attached Sheet)

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION (Dollars In Thousands)		A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Research & Development	C. ELECTRICAL POWER SYSTEM/ENV. TEST REPLACEMENT Cont'd 4AA9EL4440PR	D. NAWC

NARRATIVE CONTINUATION SHEET

Combined Chambers The existing chambers are over 15 years old with primitive digital control. The new chambers will provide more precise control, digital recording capability, automated round-the-clock operation and require less maintenance. The existing chambers' evaporators and condensers units are experiencing advanced corrosion because of the humid operating environments utilized in testing. Excessive maintenance efforts have become necessary to prolong the life of this equipment. Repair to the major systems of the chambers would not be cost effective. The existing controls lose all commands with the slightest momentary power loss and must be reprogrammed manually in a step by step process. Modern digital controllers retain memory and can be programmed by computer or memory card. The existing chambers' refrigeration systems utilizes ozone depleting refrigerants, which under the Montreal protocol are being phased out and in the very near future will be unavailable. The new chambers would use non-ozone depleting refrigerants.

Vacuum Train- This upgrade replaces an aging vacuum train whose operating time is limited by equipment temperature constraints. The vacuum pumps are over 25 years old and are consistently operating near the safe temperature limits. The vacuum pumps, during hot summer days, frequently exceed safe temperature limits necessitating shut down and work stoppage of the test in progress. The vacuum pumps are cooled by water to air heat exchangers that are also over 25 years old. These heat exchangers have begun to fatigue and leak thus reducing their capacity. Expensive and time consuming repairs are occasionally necessary. A new refrigeration system which was procured in FY96 will provide around the clock temperature operation. The vacuum train will then also be required to provide continuous operation. Presently, that capability does not exist. If a pump failure were to occur, repair would not be practicable because parts are no longer available. At the present time any failure of the vacuum pumps would cause work stoppage until replacement could be accomplished.

Impact Statement(Continued)
Vacuum Train- Failure to replace the vacuum train system will result in work stoppage if a major malfunction were to occur because repair parts are no longer available for these vacuum pumps due to their advanced age. In addition, lack of automated shut down when the chamber vacuum systems is operating outside of limits could result in catastrophic failure and loss of test capability. At the present time this system requires constant monitoring by technical staff to guard against such a failure.

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)												A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Research & Development						C. UNMANNED AIR VEHICLE ALTITUDE FACILITY UPGRADE 4AA9EL4410PR						D. NAWC
	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	600	600

OPERATIONAL DATE	31-Oct-00		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$530,000	$0	$530,000
AVERAGE ANNUAL SAVINGS (Discounted)	$325,662	$0	$325,662
PAYBACK PERIOD	1.3	#DIV/0!	1.3
RATE OF RETURN (ROR)	54%	0%	54%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. This submission is for the procurement of equipment to improve the capability, quality and accuracy of the Unmanned Air Vehicle/small engine testing . The specific upgrade equipment to be installed are as follows.

a. Eddy current dynamometer with the capability to absorb up to 300 shp at maximum speeds of up to 10k RPM. This dynamometer must have a low inertia (for propeller simulation) and be fully controllable in both speed and load governing mode.

b. Eddy current dynamometer with the capability to absorb 0-75 shp at maximum speeds of up to 14k RPM. This dynamometer must have a low inertia (for propeller simulation) and be fully controllable in both speed and load governing mode.

c. Test cell conditioning equipment to provide conditioned air for the accurate simulation of hot and cold day starting environments. The system must be able to maintain the cell ambient temperature within +/- 2 degrees F within a range of -40 degrees F to +130 degrees F for an indefinite amount of time (typical soak time is between 4 - 8 hours) without shutdown or failure.

d. Test cell air supply equipment to provide the required volume of airflow for propeller operation within the test cell. This equipment must supply over 4 lb/sec of air at 150 knots across the propeller face for propellers up to 60 inches in diameter.

e. An exhaust gas intercooler to reduce exhaust gas temperatures of small turboshaft engines during testing. The existing exhaust system was designed to handle exhaust gasses with an average temperature of 100 degrees F. This equipment would be required to lower the average gas temperature to near 100 degrees F.

f. Fuel flow meters to accurately measure JP-5, JP-8, AVGAS (100LL), and MOGAS during engine testing. Meters will be sized to cover flow ranges of 0 to 300 lb/hr.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

To satisfy the needs of our current customers and emerging UAV requirements our test facilities must be as accurate as possible and correctly simulate the engine operating environments. The eddy current dynamometers are required to provide accurate load absorption for the measurement of shaft horsepower output. the eddy current dynos will have low inertia to accurately simulate the loading the engine will see from the propeller, and computer control for realistic repeatable mission simulations. The current waterbrakes that these eddy current dynos will replace have limited accuracy, controllability and durability and are very maintenance intensive. (CONTINUED ON NARRATIVE CONTINUATION SHEET.)

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? Contracting out was considered and rejected do to projected cost inflation and scheduling problems.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes.

5. IMPACT IF NOT ACQUIRED. With our current small engine test facility unable to create cold and hot day conditions, many potential customers will overlook our facility, as these conditions are critical to mission success required to verify equipment performance. Most UAVs use small propellers to produce thrust and it is very important to test propulsion systems with the propeller operating in a realistically simulated airstream (for both safety and performance reasons). Customers are currently severely limited in test facilities that can test with both the propeller and the dynamometer and correlate this data prior to flight testing. Without this capability the cost of system development is greatly increased and performance can only be predicted. The incorporation of eddy current dynamometers and increased accuracy fuel flow meters will greatly increase transient testing of small engine propulsions systems. Without such equipment, mission performance must be extrapolated from steady state data and is not verified under test conditions. This transient operation testing is very important as a large portion of the UAV mission consists of climbs, descents including takeoffs and landings. The incorporation of the exhaust gas intercooler is required if small UAV turboshaft engines are to be tested as our current exhauster cannot tolerate gas turbine exhaust temperatures. With more and more UAVs using turboshaft engines (due to inherent heavy fuel operation), we must not limit our testing to piston and rotary engines or an increasingly large portion of future UAV engine testing will occur elsewhere. This is important because once a customer is satisfied with previous testing, he will return, provided the facility can test his equipment.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT N/A

CAPITAL PURCHASES JUSTIFICATION (Dollars In Thousands)		A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Research & Development	C. UNMANNED AIR VEHICLE ALTITUDE FACILITY UPGRADE Cont'd 4AA9EL4410PR	D. NAWC

NARRATIVE CONTINUATION SHEET

Specifications for current and future UAVs require engine operation during Cold and Hot Day Conditions. Without this testing, operation and performance at or near these temperature extremes will be unknown and critical design criteria will not be evaluated in a safe, controlled environment. To create this simulation, test cell conditioning equipment is required to provide sufficiently tempered air in the test cell to "soak" the engine.

Currently all DoD UAVs use propellers to produce thrust. To properly test and evaluate UAV propulsion system performance, we must accurately simulate the environment the propeller will be operating in without introducing recirculation of airflow in the test cell, as this will produce dangerous harmonic resonance's that alter propeller performance, invalidating test results and ultimately destroying the propeller. To avoid this problem and provide an accurate simulation, equipment is required to provide the proper airflow across the propeller face.

With heavy fuel engines mandated for future UAV's, some classes of air vehicles will use small turboshaft engines. The test cell exhaust will have to evacuate exhaust gasses of a much higher temperature than it was designed for, resulting in reduced performance and a much shorter life span. The incorporation of an intercooler upstream of the exhaust will reduce the average exhaust gas temperature to within allowable limits of the exhaust.

Accurate measurement of fuel consumption is extremely important during engine testing as it provides the necessary data to determine air vehicle mission endurance, optimal cruise speed and loiter times, and impact on mission length for each engine speed/load combination. Some engine testing is done solely for the purpose of determining fuel consumption. For these reasons we must have extremely accurate fuel flow meters in the proper flow ranges.

The upgrade to our small engine test facility will produce extremely accurate flight environment simulation testing that is desired by both government and commercial UAV customer to reduce system development costs. With these upgrades our facility will be able to test propulsion systems and small air vehicles in any conditions that might be encountered in actual use, greatly reducing risk and loss of equipment. With the ability to do all required environmental testing at our facility, set up costs and schedule impacts incurred by using multiple facilities will be eliminated. This capability combined with upgrades to both our dynamometers and our fuel flow measurement equipment will make our test facility very desirable to the fast growing military and commercial UAV market.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. F & L LABORATORY UPGRADE
4AA9EL4450PR

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0			0	1	540	540

OPERATIONAL DATE 28-Feb-00

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$136,230	$0	$136,230
AVERAGE ANNUAL SAVINGS (Discounted)	$83,707	$0	$83,707
PAYBACK PERIOD	5.3	#DIV/0!	5.3
RATE OF RETURN (ROR)	16%	0%	16%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. This program consists of three specific items. Two maintain current capabilities while improving data quality and reducing manpower requirements. The third provides added capabilities to the Propulsion Systems Engineering Facility (PSEF).

The proposal is to replace the control room consoles and associated test cell instrumentation used with the Navy Cold Flow Simulator and Coalescence Tests in R2 and for the T63 Lube Oil Test in D Rm. The new data acquisition and control system w replace the manual and semi-manual set-ups which have been in use since 1985 and 1978 respectively. Water coalescers are essential to shipboard operations and are a critical component of aircraft operational readiness. The T63 test has accumulated over 13,000 hours of lube oil performance data in 70 separate evaluations and is also used for experimental fuel, gas path cleaner, and material development evaluations. All three test are used continuously and are manpower intensive.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

The existing control and acquisition systems are aging technology and require significant manpower to keep on-line. Some components are custom made and direct replacement parts are not readily available, leading to project delays and high part costs. A new system using "off-the-shelf" technology will reduce manpower needs while improving test control and data accuracy. The two fuel rigs use large quantities of JP fuel and require additional safety consideration for fire and explosion proof environments. Current technology components conform to modern safety codes and provide these added safety margins. The results from these systems will be essential to the current tri-service efforts looking at the suitability of +100 fuel additives and environmentally friendly icing system inhibitors. The T63 upgrade will lower manpower requirements (from two to one) for the lubricant test programs.

In aviation oil specifications the parameter "Ryder Gear load carrying capacity" is used to measure gear scuffing resistance. While a useful point, it measures only one aspect of lubrication and represents 1950's technology. The PSEF Ryder facility is the only government lab capable of doing this test, specimens cost $1.0K each, are difficult to get (one source) and multiple tests are required on each product. Other devices are available to measure anti-wear, traction coefficient, etc., but none provide a comprehensive view of lubricant performance. The proposed Wedeven Associates Machine 3 provides enhanced measurement capabilities and has the flexibility to simulate lubricated contact conditions in virtually any gear or bearing application. The device can develop oil "performance maps" which quantify oil characteristics over a wide range of contact conditions.

The test data quality is currently very good. An automated system with additional data reduction and manipulation features will provided added capacity to data analysis. These improvements will simplify analysis tasks and provide higher quality outputs (better graphs, tables, etc..) with less effort. The newer equipment will also provide a morale benefit to the operators. Combined, these two items will lead to better reports and evaluations.

The installation of the Wedeven Associates Machine 3 (WAM3) device will provide another analysis tool to the Navy for oil/material problem evaluations. The investment in this state-of-the-art apparatus shows a definite commitment by the Navy in lubrication technology. It will enhance the Navy's image to contractors, other agencies and allied nations.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? No other alternatives exist. It is not feasible to lease or contract out this capability because of much higher costs and scheduling problems.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes.

5. IMPACT IF NOT ACQUIRED. If the new data acquisition and automated control systems are not installed we will continue to operate using manual data recording and control. These are manpower intensive process and incur significant costs. Since the functions are critical to our mission we will continue with the inefficient use of assets since there is no alternative. Failure to modify the systems will increase the probability that critical test programs may be delayed because the systems cannot be supported.

If the proposed Wedeven Associates Machine 3 is not procured we will continue to use the expensive Ryder Gear test for oil qualification and service problem evaluations. Analysis will continue to be limited to measuring only the scuffing capacity of lubricants and will not allow us to develop a more comprehensive picture of a lubricant's properties. This limitation will perpetually handicap lubricant development and stagnate propulsion system improvements which could be realized through better products. Improved lubricant definition, as may be available through a "performance map", will permit development of lubricants having superior tribological properties. These improved lubricants will permit the development of lighter weight propulsion systems by providing better antiwear, improved friction and traction properties, load carrying capacity. Better oil with improved bearing and gear life properties will also lead to reduced propulsion system maintenance costs. Without a means to assess lubricant properties the inclusion of improved gear and bearing system will be greatly reduced.

The upgrading of the test rigs will provide a better rate of return on investment than the combined three part effort. The WAM3 device provides added testing capability but is essentially a break even cost exchange.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. AVIONICS ANALYSIS SYSTEM 4AA9EL4500PR

D NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	516	516

OPERATIONAL DATE	1-Jun-99		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$400,000	$0	$400,000
AVERAGE ANNUAL SAVINGS (Discounted)	$245,783	$0	$245,783
PAYBACK PERIOD	1.4	#DIV/0!	1.4
RATE OF RETURN (ROR)	48%	0%	48%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

The Avionics Analysis will be used to gather and analyze data from aircraft systems to determine the operational status of the system, identify integration and performance problems, and validate expected system performance.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

Currently this information is collected piecemeal and correlation is manually performed to try to identify system anomalies. This system will greatly automate this process thus allowing more accurate data analysis and faster identification of system problems.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

The only other alternative to acquiring an automated system is to continue to perform the analysis manually.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?

Yes. This equipment will support multiple avionics platforms, and thus benefit multiple sponsors.

5. IMPACT IF NOT ACQUIRED.

If this system is not acquired, business will continue as usual with higher avionics development and integration costs.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. CONCURRENT ENGINEERING WORKGROUP 4WD3EL0010PP

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST	1	1,198	1,198	1	1,526	1,526	1	500	500			0

OPERATIONAL DATE 1-Sep-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$2,080,960	$0	$2,080,960
AVERAGE ANNUAL SAVINGS (Discounted)	$1,278,660	$0	$1,278,660
PAYBACK PERIOD	3.8	#DIV/0!	3.8
RATE OF RETURN (ROR)	20%	0%	20%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. This CPP procurement consists of an integrated computer system which is being developed on several phases. The Phase I objective began meeting obligations of the Electronic Simulation Facility, the Strike Analysis Branch, the Weapon Systems Analysis System and established a prototype Concurrent Engineering Workgroup system. Our Phase II objective completed the obligations of each branch and to expand the capabilities established in Phase I of the Concurrent Engineering Workgroup system and migrate these technologies into the other Branches. Our current phase (Phase III) objective is to expand the secure networking environment of the Division to provide access to the key elements of the Concurrent Engineering (CE) system. These key elements consist of: 1) a shared information model that captures complete descriptions of the product and all associated process activities and organizational resources; 2) a global object framework, utilities and services that enable the use of the shared information model by a secure network of cooperating computer-based clients; 3) and methods (Distributed Interactive Simulation, High Level Architecture), tools and advisors that assist in concept evaluation, analysis, and decision making.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The Naval Air Warfare Center is actively pursuing CE projects throughout the Center. The cultural aspects of CE are being addressed via Total Quality Leadership, Competency Aligned Organization, Distributed Simulation Internet, and other initiatives. However, the technical aspects of CE are not being addressed. The three phased approach presented above will provide the foundation for CE technologies to be exploited within the Weapons/Target Integration Division. CE will enable Code 471 to get Integrated Product Team (IPT) members, who are separated geographically and organizationally, to efficiently communicate with each other by providing a technical interface with all NAVAIR team members. A key aspect of the CE technologies is the Computer Aided Logistics Study (CALS) initiative. This envisioned system will enable weapon specifications to be CALS compliant and insure that the data transfer between multiple organizations, multiple disciplines, and multiple facilities will be seamless, secure and understandable. Much of the system consists of design and analysis equipment and software. By focusing on an enterprise-wide development of tools such as Computer Aided Design, Computer Aided Engineering, Computer Aided Machining, more design iterations will occur (better quality), productivity will be enhanced (less time), and schedules will be compressed (less cost). The National Institute for Standards sponsored a report to investigate the benefits of concurrency in product development. This report states that CE can reduce development time 30-50%, engineering changes 65-90%, time to market 20-90%, and increase overall quality 200-600%. Its goes on to state the productivity in organizations that adopted CE practices was up 20-110%. Industry leaders such as General Electric, Texas Instruments, Westinghouse, and Boeing are all claiming profound success by using CE technologies. This system will address the key technical issues associated with CE and perhaps influence some cultural barriers. However, these technologies will not address all of the cultural issues. They will have to be addressed via education.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? Contracting out the installation and maintenance of the CE system was studied. The leasing of computers and peripherals over a ten year period would cost 32% more than the purchasing of the same computers and peripherals during that same time period. Having the maintenance and administration of the CE system under contract for a ten year period was found to be cost prohibitive.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? The customers (Sidewinder, SLAM, Tomahawk, and other missile programs) and the Concurrent Engineering Workgroup have been involved with the solution from the initial phases. Our customers requirements (shorter project time-lines and reduced costs) have been the driving force behind this change in the way we do business.

5. IMPACT IF NOT ACQUIRED. If this system is not procured the impact will be extensive. Current investment in Phase I of 879K, Phase II of (820K + 1236K + 1500K) in the Electronic Simulation Facility, the Strike Analysis Section, and the Weapon Systems Analysis System. If the follow on Phases are not met the Weapons/Target Integration Division will not have the fundamental foundations needed to exploit CE and CALS technologies and actively participate as an IPT team member.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars In Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. MISSION PLANNING / DIGITAL IMAGING W/S 4WD3EL0007PP

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST	1	960	960	1	1,000	1,000	1	1,000	1,000	1	1,000	1,000

OPERATIONAL DATE 1-Dec-07

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$12,230,910	$0	$12,230,910
AVERAGE ANNUAL SAVINGS (Discounted)	$7,515,365	$0	$7,515,365
PAYBACK PERIOD	1.2	#DIV/0!	1.2
RATE OF RETURN (ROR)	59%	0%	59%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The purpose of the Mission Planning Facilities CPP is to provide NAWCWD with a broad spectrum of capabilities responsive to current and future mission planning requirements of aircraft and weapons systems programs. The effort is proceeding in four phases: 1) provide basic Tactical Aircraft Mission Planning System (TAMPS) and mission planning science and technology facilities (FY 92/3), 2) provide collaborative project capability between China Lake and Pt. Mugu (FY 94/5), 3) provide sensor to shooter connectivity (FY 96/01), and 4) provide for custom weapon tailoring (FY 02/06). The current phase has three modules: FY 96/97 - TACAIR (Tactical Aircraft) connectivity (including Global Broadcast System, satellite and line of site communications); FY 98/99 - Distributed Data Base (including Dynamic Knowledge Management and Real-time Interpretation System) and simulation integration for constructive many on many simulation; and FY00/01 the focus will be towards direct control of assets for research and development prototyping, with space sensor control capability in FY 2000 and tools for real time allocation and utilization of weapons systems in FY 2001.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The increasing sophistication of aircraft and weapon systems utilizing the Global Positioning System, automatic target recognition systems and knowledge of both the threats and terrain masking to survive are becoming dependent on mission planning systems to be operationally useful. Our ability to rapidly utilize tactical and national intelligence, and coordinate across unit, service and national barriers will enhance our operational capabilities. This CPP provides basic mission planning facilities, facilitates collaboration across NAWC sites to maximize program synergism and contributions from appropriate experts, and is building the connectivity, data base utilities and simulation support for minimizing travel and flight test in exchange for simulation and distributed interaction of supporting facilities. Projects affected include F/A-18 mission planning, Airborne Tactical Information Management System, Tactical Tomahawk, Joint Stand Off Weapon, Joint Direct Attack Munition, and Arid Hunter.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? Other alternatives considered have included 1) various contract options with industry, 2) going commercial, outsourcing the functional area along with the current workforce and using commercial applications, 3) going to universities that have similar capabilities.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes, the various customers have been significantly involved in the development of the approach and the capabilities. Air Force and Navy pilots, the Intelligence community, and the Training Commands are all jointly involved with us in exploiting the technology.

5. IMPACT IF NOT ACQUIRED. Failure to support the Mission Planning Initiative will seriously compromise our efforts to build a consensus and future vision in the mission planning arena. Coordination and capabilities to support military operations with tactical air weapons and cruise missiles will be significantly diminished. Mission planning response times will remain in the time frame of two days, as opposed to thirty minutes or less. The facilities and capabilities developed here support multiple programs sponsored by the National Reconnaissance Office, Navy Command & Control, the Program Executive Office for Cruise Missiles and Unmanned Aerial Vehicles, and the Program Manager for Tactical Aircraft Mission Planning. Specific requirements include mission planning response times of thirty minutes or less, direct access to National space sensors, rapid exploitation and transmission of weapon targeting materials to inflight aircraft and missiles, and rapid weapon tailoring to optimize first pass kill potential.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. NA

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. HELICOPTER DRIVE TRAIN FACILITY 4AA8EL4460PP

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	950	950			0

OPERATIONAL DATE 1-Mar-00

METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$1,020,000	$0	$1,020,000
AVERAGE ANNUAL SAVINGS (Discounted)	$626,746	$0	$626,746
PAYBACK PERIOD	1.0	#DIV/0!	1.0
RATE OF RETURN (ROR)	66%	0%	66%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

This system is intended to increase the capability of the Helicopter Test Facility by automating the control and data system and increasing it's power absorption from 9,000 Shaft Horse Power to 17,500 Shaft Horse Power to match the needs of the Navy's inventory.

The system will consist of a new speed increase gearbox designed to fit in the current design envelope of the facility and an automated control and data system. The control and data system will be designed to operate both the test facility and the test article while monitoring system health and collecting data. This will allow for more accurate duplication of the flight test envelope and increase the margin of operational safety. The data acquisition system will greatly increase the accuracy and quality of the data.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

The current Helicopter Test Facility is limited to testing aircraft of 9,000 Horsepower. Larger helicopters in the inventory have growth potential of up to 17,500 Horsepower and cannot be tested in this or any other facility. The increased capacity step-up gearbox will bring the facility up to "state of the art standards." This improved capability will allow the Naval Air Warfare Center, Aircraft Division to meet our current customers needs as well as increase the potential for attracting other customers.

Operating this test facility in its current configuration is labor intensive. A typical test requires a project engineer, a test engineer, and five aircraft mechanics. With the automated control and data system the facility will have the capability of operating with a project engineer and two aircraft mechanics. Operating the facility in an automated mode will greatly increase operational efficiency which will decrease indirect charges. The capability to automatically monitor and control the facility and test artic will also reduce the potential of damage caused by operational error or system failure thus reducing repair cost and induced test article problems. Acquiring data automatically will increase the quality of data, allow us to increase the amount of da collected, allow for easier establishment of equipment health monitoring trending and reduce the time required to record and interpret test results.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? None exist, therefore no alternatives have been proposed.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes

5. IMPACT IF NOT ACQUIRED.

In it's current configuration the system is both expensive to operate and limited in its power absorption capability. Without these improvements the Navy will not have the capability to test future high horsepower helicopter drive systems in a test facili Flight test would be the only option. The use of flight testing for concept exploration or to verify hardware life issues is both dangerous and costly. The current facility had been used in the past to identify mechanical design defects and to explore and verify improvements flight systems. The successful identification and redesign of the drive clutch on the H-3 Presidential helicopter is an example of how this system was used: This test could not have safely been performed with flight testing. Without increasing the capability of this facility the Navy could lose an important asset and it's position as a leader in helicopter drive system testing and evaluation.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. DYNAMIC CREW SYSTEM INTEGRATION EVAL. FACILITY 4AA8EL4611PP

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	726	726	1	560	560

OPERATIONAL DATE 1-May-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$980,283	$0	$980,283
AVERAGE ANNUAL SAVINGS (Discounted)	$602,341	$0	$602,341
PAYBACK PERIOD	1.5	#DIV/0!	1.5
RATE OF RETURN (ROR)	47%	0%	47%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. This proposal is for the development of a Dynamic Crew-System Integration Evaluation Facility (DCSIEF) to support Crew-System integration evaluations during the development process. DCSIEF is intended to support performance evaluations of the cockpit control-display interface, night vision devices (NVDs), helmet mounted displays (HMDs), cockpit lighting, cockpit transparencies and helmet trackers, and crew workload and situation awareness measurement will be additional capabilities of the DCSIEF. These capabilities are now separately supported by a combination of laboratory, ground, and flight tests. However, the DCSIEF will unify and enhance the evaluation capability. The facility will be an engineering/research class fixed base simulator with a visual scene projected both in the NVD spectrum and visible range. Ambient illumination will be integral to emulate all anticipated conditions. Cockpits will be provided, using rapid prototyping technology, with the level of fidelity required to meet the goals of the planned evaluation. Sophisticated data extraction, recording, and analysis will be used to provide quantitative metrics of system performance. Absolute control over the environment, mission conditions, and scenarios will be available.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The crew-system RDT&E process is complicated by the ever increasing complexity of modern aircraft. Weapon system complexity is compounded by avionics, sensors, and weapons, in addition to the exacting mission requirements of threat, environment, cooperative engagements and mission scenarios. The crew-system development process has suffered by not having early, meaningful participation during the design phase due to the lack of comprehensive design, fabrication, and evaluation support tools, There has been limited success in improving this process. Crew-system tests have successfully addressed critica or obviously deficient design elements after the fact. Early involvement is crucial to effective crew-system integration, and this new facility will be a judicious use of valuable dollars with high payoff.

Even real-time flight tests do not account for inadequacies in comprehensive ground and simulator tests. The complexity of the test limits the available data to qualitative and, in many cases, anecdotal comments. The presence of actual night sky illumination and compatible cockpit lighting are, for example, offset by lack of experimental control over illumination levels. The night sky changes significantly with moon position and phase and weather. Typical flight test scenarios are time-limited, spre over several moon phases, and flown by different test pilots. This resultant data cannot be accurately correlated. The length of the flight test period is insufficient to characterize either an NVD or an HMD, much less a fully integrated helmet.

The DCSIEF will maintain a stand-alone capability while also being upwardly compatibility with the Manned Flight Simulator at Patuxent River and downward compatible with many of the less elaborate rapid prototyping devices at DOD labs and contractor facilities. The DCSIEF will be linked directly to the Air Combat Environment Test and Evaluation Facility complex and, as such, will be available for participation in all full-mission simulations.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? Numerous alternatives have been considered and have in fact been employed. Various aspects of this requirement are met by various other facilities (government and industry). The cost for use however is high, results in engineering labor being outsourced unnecessarily, and is technically disjointed. These other methods are tailored to either the research, S&T, or applied side of the business.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? For the first time in the history of RDT&E, we will have the capability to evaluate all aspects of crew-system integration, as required, during various phases of the RDT&E cycle. This facility will help avoid an intolerable loss of life and equipment assets as a result of inadequate crew-system integration. Current efforts require extensive/repetitive simulation activities at the contractor's location. This effort will bring these functions in-house where they are directly accessible to members of the Naval Air Systems Team. The DCSIEF will reduce cost and increase productivity. This effort builds on other successful efforts executed by this office. As a result of I&M and CPP investments, we have become the Navy and Marine Corps lead for NVD R&D. We are responsible for NVD cockpit lighting evaluation support to the USN, USMC, USA, USAF and USCG. This office is responsible for all safety of flight decisions pertaining to NVDs and compatible lighting.

5. IMPACT IF NOT ACQUIRED. Current methods are not integrated for systems engineering. Existing equipment and facilities assets do not provide sufficient capability to adequately conduct the myriad of test necessary to evaluate the effectiveness of today's complex weapon systems. Our aircraft systems are falling victim to overwhelming crew-system integration complexities. We need the capability to predict or detect design deficiencies early in the program so that corrective action can be taken in timely, cost effective manner. The cost saving inherent in integrated design and evaluation far outweigh the cost of developing the DCSIEF, and are intangible when compared with the cost of lost life and equipment assets. The crew-systems functional area is under assault by the USAF R&D community. They, however, are not closely aligned with their T&E and integration assets. This facility and Navy Crew System's total integration, as a result of CAO, will allow us to strengthen our technological command of this area. The customer, the user, the competency and the Naval Air Systems Team will benefit as a result.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. SURFACE ANALYSIS INITIATIVE

4WD9EL8002PP

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	950	950

OPERATIONAL DATE	1-Sep-99		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$155,500	$42,500	$198,000
AVERAGE ANNUAL SAVINGS (Discounted)	$95,548	$26,114	$121,662
PAYBACK PERIOD	9.9	NA	6.9
RATE OF RETURN (ROR)	10%	3%	13%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The proposed surface analysis initiative is intended to enhance surface analysis and characterization services available to NAWCWPNS, NAWC, and other customers. These services are provided to the full range of NAWCWPNS customers and their materials technical interests; from research through acquisition and into in-service support. The initiative includes procurement of 3 instruments; a scanning ESCA (electron spectroscopy chemical analysis/photoelectron spectroscopy), an atomic force microscope (AFM), and a Brewster angle microscopy system.

The proposed system would improve on a basic materials characterization capability which China Lake has had for over 10 years. An existing scanning auger analysis system would be retired (after 15 years of service) while the proposed system would provide analyses of a greater range of materials than currently possible, supporting a wider array of customers.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The initiative addresses several current deficiencies. The scanning ESCA would allow surface elemental analysis with high resolution, that is, chemical analysis of microstructures for a range of materials including composites and ceramics, chemical mapping of those structures, and chemical state determination. The currently available auger system cannot survey these materials and cannot give chemical state data. The atomic force microscope would provide detailed imaging of surfaces on an atomic scale allowing characterization of nano-powders, nano-engineered materials, and micromachines. Ongoing nano-powder work at NAWCWPNS have exceeded the available imaging systems' resolution capabilities. The Brewster microscopy system would provide for molecular order data and subsequent process control of nonlinear optical polymer films on a multitude of substrates, including water. This is a capability currently unavailable at NAWCWPNS.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? The alternatives which have been considered include contract services and use of other government systems. The cost involved in contract services is estimated at $170,000 per year and in addition, contract services would be slower and less efficient. The lead time to obtain contract services or access to other government systems often precludes consideration, surface analysis is often part of a larger service (failure analysis) and sub-contracting an element of the analysis results in hidden cost to the customer - paying a third party to define, contract, monitor, and interpret the service. The surface analysis operations are highly iterative in nature, the customer needs to be on-site directing the analyst. This allows for efficient operation; an analyst operating without direction would have to interrupt the effort to communicate interim results with the customer. In-house capability would provide for interaction without the need of travel.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Research customers have been approached regarding procurement of the proposed systems and have expressed concurrence. Funded projects in nonlinear optical polymers, nano-powders, and high temperature airframe materials have each provided input as to their surface analysis needs and these have been incorporated into the initiative. Acquisition and in-service projects have had less direct input. These IPT's depend on the competency to determine what technical resources will meet their needs, and a survey of Auger analysis activity indicates continued need for the surface analysis service.

5. IMPACT IF NOT ACQUIRED. Because of its advanced age, the existing instrument requires a very expensive annual service contract ($33K) in addition to about 500 hours of labor for maintenance activities associated with keeping it running. Continued support at this level cannot be justified and the instrument would be excessed at its next major system breakdown. At that point, WD would be out of the surface analysis business. Alternatives to an in-house capability defined in this initiative would increase response time and cost for surface analysis customers. The fleet support work services that the proposed instruments would execute is often high priority and urgent. Experience has shown that in such circumstances, if the right tool is unavailable in-house, then the right tool is not used; there is no time to arrange access.

Surface analysis services are provided to a range of customers across NAWCWPNS. Contamination of electronic components which occurs in fabrication or in-service can be identified and prospective corrective action specified. This has been performed recently for Standard Missile warhead Safe and Arm (S&A) devices, Cruise Missile guidance systems, and Sidewinder seeker assemblies. Corrosion and other environmental effects on weapon system components can likewise be characterized. This has been performed recently for Cruise Missile fin actuator nitrogen storage tanks, Rolling Airframe Missile (RAM) launch container hardware, and the Highspeed Anti Radiation Missile (HARM) motor case. In each of the above instances, the contractor involved did not (or chose not to) have access to these surface analysis services. Other projects which have derived benefit from these services over the years include: Gator, Sparrow, Phoenix, Harpoon/SLAM, various fuse systems, various gun and ammunition systems, and various Range Support equipment. Research efforts supported include fiber optic studies, electronic materials development, absorptive materials development, and nano-powder development. In short, virtually the entire NAWCWPNS product line has been supported by the surface analysis services. Loss of this capability would restrict IPT options regarding investigation and resolution of fabrication and in-service failures and would retard research in-house efforts.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. SIDE BY SIDE MULTIPLE RECONFIGURABLE COCKPIT 4AA9EL4322PN

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0			0	1	995	995

OPERATIONAL DATE	1-Jan-00		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$725,000	$0	$725,000
AVERAGE ANNUAL SAVINGS (Discounted)	$445,481	$0	$445,481
PAYBACK PERIOD	0.9	#DIV/0!	0.9
RATE OF RETURN (ROR)	73%	0%	73%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. Build a side by side (SBS) generic high fidelity multiply reconfigurable cockpit (SBS-MRC) at Man Flight Simulator (MFS). The SBS-MRC is to be used to support both fixed and rotary wing aircraft platforms that have 2 by 2 or 2 by 4 seating and provide high fidelity cockpit control system dynamics for control stick/column, rudder pedals and throttle/cyclic control effectors. The cockpit must be capable of representing a wide variety of Navy, Marine and commercial aircraft which use 2 and 4 seat SBS configurations. The cockpit must be easily reconfigured interfaced with all five cockpit stations at the MFS. The cockpit front console must be configured with touch sensitive screens or actual aircraft cockpit hardware and simulation gauges. Using simulation gauges different modular consoles would be required to support different fixed and rotary with aircraft models. Overhead and lower consoles would contain actual or simulation control heads. The control heads would be modular and capable of supporting a different aircraft model configurations. Cockpit and visual interface requirements would be met using existing MFS simulations. The cockpit would be capable of supporting touch sensitive screen requirements. MFS in-house developed software and computer systems running Virtual Avionics Prototyping System (VAPS) software would be used to create unique cockpit displays and instruments.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? Deficiency/Problem: With the exception of the V-22, the MFS has no SBS high fidelity cockpit simulation capability. This has had a significant negative impact on ability to support existing and new customer requirements for several SBS fixed and rotary wing aircraft platforms. In particular, Rotary Wing simulation support, with the exception of the V-22, has been very limited due to the lack of any high fidelity helicopter cockpit capability. While MFS has successfully fielded two AH-1W Cobra Aircrew Procedures Trainers for the Marines there is no foreseeable possibility of building an AH-1W cockpit that will permanently reside at the MFS because of funding which is not expected to be available.

Deficiency Solution: Current simulation costs at MFS are $500/hr. Actual flight testing costs are nominally $2,500/flt hr (not including labor and ground support). It is conservatively estimated that 5% of actual flight tests could be reduced using high fidelity simulation. Using an estimate of 5,000 flt hrs/year (25 pilots at 200 hrs/yr) at a savings $2,000 per flt hour with 250 flt hours saved (5%) a savings of $625,000 per year is projected. An additional savings of approximately $100,000 is expected per year through elimination of Real Ttime Processing System (RTPS) support. It is expected that the availability of a generic SBS cockpit which is easily configured to a particular platform will be highly attractive to support current and future T&E and R&D requirements because of the wide range of fixed and rotary wing platforms that are 2 or 4 seat SBS configurations. The MFS has maintained an excellent track record for providing high fidelity real time pilot-in-the-loop simulation over the past decade. All of the engineering expertise and tools necessary (i.e., mechanical, electrical, aero, propulsion, flight controls and avionics modeling, visual scene, databases etc.) to construct a cockpit in a highly realistic flight environment are currently resident at MFS. Support required outside of NAWCAD to obtain the proposed capability would be minimal.

The impact of not creating this capability is to significantly reduce the growth of MFS. The continued growth of MFS in providing high fidelity cockpit customer support to satisfy Navy aircraft T&E and R&D missions needs, via simulation, to reduce overall cost and produce better aircraft is dependent on having high fidelity multi-crew cockpits.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED
Alternative #1: Use the existing single seat MRC to host both fixed wing and rotary wing simulations. This is unacceptable because customers with multi-crew cockpit requirements cannot be satisfied with a single seat configuration.

Alternative #2: Use exiting high fidelity Full Scale Development (FSD) and Engineering & Manufacturing Development (E&MD) V-22 cockpits. While the V-22 cockpits are available in MFS when not supporting V-22 IPT requirements, they are not reconfigurable, do not have VAPS display capability. and cannot be used to host other rotary wing simulations without major modifications.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? (See Continuation Sheet)

5. IMPACT IF NOT ACQUIRED. (See Continuation Sheet)

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION (Dollars In Thousands)		A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Research & Development	C. SIDE BY SIDE MULTIPLY RECONFIGURABLE COCKPIT Cont'd 4AA9EL4322PN	D. NAWC

NARRATIVE CONTINUATION SHEET:

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?

Key customers have been made aware of the plan to build high fidelity cockpits that will enhance their ability to perform RDT&E. However, no one customer/sponsor can afford to build a simulation asset that in the long term will reduce their cost/risk of doing business. Preliminary efforts to obtain sponsor support have been unsuccessful for this reason. The culture of fixed and rotary wing platforms at NAWCAD continues to have strong focus on flight testing, without extensive pre-flight test pilot -in-the-loop simulation planning at MFS. This is due in part to the lack of a high fidelity Rotary Wing (RW) cockpit asset at MFS. Also, RW simulation fidelity has lagged fixed wing simulation fidelity. However, this lag is decreasing with advancements in modeling fidelity (e.g. blade element modeling, ship (LHA/LHD) airwake modeling). Recent advances in High Performance Computing power and availability at NAWCAD/Air Combat Environment Test & Evaluation Facility (ACETEF) are expected to set the stage for significant improvements in rotary wing simulation fidelity. This will create a customer need for high fidelity cockpits. Recent success (Nov-Dec 1996) with the V-22 E&MD high fidelity cockpit (Flight Control Computer and Mission Computer in the loop) in supporting the Operational Test and Evaluation force (OT-IIC) has eliminated significant numbers of actual test flights and had a direct impact on V-22 Low RateInitial Production (LRIP). This is a strong indication of the necessity of having high fidelity multi-crew cockpits available to support T&E now and in the future to reduce risk and overall program costs through simulation.

The SBS-MRC has the ability to enhance NAWCAD capabilities significantly and to bring in new business not only for Navy fixed and rotary wing simulations but also in support of outside agencies such as the Federal Aviation Administration which has many multiseat aircraft platforms which could be supported by a generic SBS-MRC capability.

5. IMPACT IF NOT ACQUIRED.

Customer impact, if not funded, will be continued reliance on the traditional methods of using flight testing to support existing and new aircraft development. The customer will continue to pay the long term high costs of actual flight testing or higher costs of relying on contractor simulation support during the life cycle of an aircraft platform. As is often stated but nevertheless true, high fidelity simulation can significantly reduce program costs if used in a complementary manner with actual flight testing by eliminating a significant percentage of planned flights to accomplish tasking. In some cases flight safety may be decreased if actual flight testing is performed in high risk areas because simulation does not have the required fidelity cockpit pilot vehicle interface. Experience at MFS has proven that it is more cost effective for the customer to have a government supported simulation/simulation cockpit capability at MFS during the life cycle of an aircraft platform for fleet support as contractor simulation support decreases and/or becomes more expensive. In particular, the long term high fidelity support of rotary wing simulation, which is minimal now at MFS, will further stagnate. An unfortunate fact is that in many cases the customer may not realize that long term costs are significantly higher to him because he is unwilling or unable to support up front costs of creating a high fidelity simulation/simulation cockpit in the first place.

Potential loss of new business: With necessary marketing and demonstration of high fidelity simulation/simulation cockpit capabilities at MFS the potential for new business will be significantly enhanced for current and next generation airframes requiring SBS seating configurations. In the relatively near future and in the long term aircrew training using simulation to replace/augment actual flight training and hazardous flight testing will become more prevalent. High fidelity cockpit configurations will be required for increased flight safety/risk reduction and mission planning. They will become mandatory for aircrew training, test team training and complex mission rehearsal exercises which require intense aircrew coordination and high fidelity pilot/aircrew vehicle interfaces. Recent successful demonstration of a simulation link between the MFS and the Real Time Processing System makes it very probable that a significant amount of new business/business dollars for both fixed and rotary wing aircraft with SBS seating configurations could be developed if an SBS simulation cockpit asset was available. As DIS fidelity requirements increase with increased computer speeds and capacities, high fidelity cockpit capability requirements with representative aircrew configurations will increase. Business will be lost if we do not respond to this challenge and be in position market for and to respond to simulation opportunities which require high fidelity SBS cockpit configurations.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. SIGNAL PROCESSING SYSTEM
4WD7KL6152PR

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0	1	1,949	1,949	1	2,005	2,005	1	1,000	1,000

OPERATIONAL DATE 30-Sep-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$1,745,000	$0	$1,745,000
AVERAGE ANNUAL SAVINGS (Discounted)	$1,322,985	$0	$1,322,985
PAYBACK PERIOD	3.6	#DIV/0!	3.6
RATE OF RETURN (ROR)	26%	0%	26%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.
See continuation.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?
The Guidance and Control Division is preparing to execute its role as the primary source of R&D for naval air weapons guidance. Major emphasis is shifting from the historical air-air nature of the customer to one more focused on air-surface and ballistic missile defense applications. Thus, the division now accepts responsibility for three substantially different missions, yet those missions share the common requirement of needing much improved signal processing technology. At the same time, the Navy recognizes that jointness among the three Services and their Agencies [Advanced Research Projects Agency (ARPA) and Ballistic Missile Defense Office (BMDO)] is also a growing factor in weapons development. See attached sheets for justification of individual project phases.

The major benefit of this project is that the new Guidance and Control Division will be able to efficiently carry out its mission. If Phase 1 is implemented, subsequent data collection efforts will actually produce data in formats useful to the engineers for whom the data were acquired. Using current methods, much of the data gathered, while attractive to the eye, is useless for development of signal processing algorithms in digital forms. Implementation of Phase 2 will enable the division to meet the signal processing needs of its new customer base, particularly the needs of Strike Programs such as Joint Stand Off Weapon (JSOW), Joint Direct Attack Munition (JDAM), and Joint Advance Strike Technology (JAST), that were not previously part of the department charter. Phase 3 is the key to our future participation in the major modernization efforts outside NAWC. These multi-site links are needed to retain our ability to be a significant player in the new environment.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
There truly are no alternatives. However, without the investment to purchase the required equipment, the equipment would have to be leased at a significant increase in cost to the project.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?
Customers at the Office of Naval Research, Naval Air Systems Command, Naval Sea Systems Command, Ballistic Missile Defense Office, etc. support the need for NAWC-CL to improve its signal processing development and assessment capability, in order to support the signal processing needs of their programs.

5. IMPACT IF NOT ACQUIRED.
As weapons seekers become ever more dependent on Focal Plane Arrays (FPA's), LADAR systems, passive millimeter wave (MMW) imaging, and high resolution radar systems, the signal processing needs increase significantly. If the Guidance and Control Division does not commit to a significant upgrade of its signal processing capability, it will rapidly lose the ability to meet the processing needs of the newer weapons seekers. Signal processing technology for extracting the available information from modern sensors needs to lead, not lag, their development. If this system is not funded, our capability to develop high performance weapons with increased efficiencies in acquisition range, miss distance, and other important parameters, will cease to exist. These facilities are critical to our future.

If this system is not funded, such Air Strike programs as JSOW, JDAM, AND JAST will be negatively impacted. Other weapons, such as the Theater Ballistic Missile Defense (TBMD) program, will involve highly complex algorithms to solve the aimpoint and endgame track problems, and will require the computing power of this facility. Also, the traditional Air to Air programs we now support, such as Sidewinder AIM-9X, Sparrow AIM-7R, etc., will suffer by not having the proper equipment needed for development of high resolution imaging and radar seekers.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A.

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Research & Development	C. SIGNAL PROCESSING SYSTEM CONT'D 4WD7KL6152PR	D. NAWC

NARRATIVE CONTINUATION SHEET:

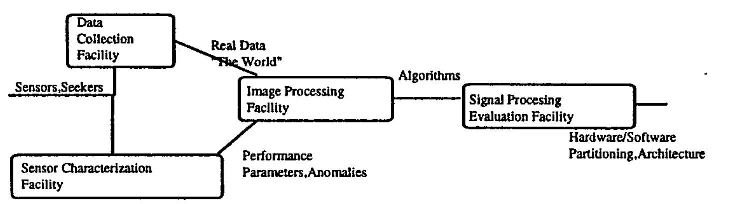
The system is an integrated Signal Processing System (hardware and software) needed to complete the signal processing capability within the Guidance and Control (G&C) Division to fulfill its mission. The system will be acquired over a 3 year period (three phases) .

Phase 1: The initial phase acquires some of the hardware and software needed to store, process and analyze imagery. Equipment will be purchased for the Data Collection and Image Processing Facility as well as initial purchases for the Sensor Characterization and Signal Processing Evaluation Facilities. Detailed explanations of these facilities is provided below.

Phase 2: At the end of Phase 2, the Data Collection Facility (DCF) will be completed. The Image Processing Facility will have all the computing power available to conduct high-speed simulations with the data provided by the DCF. Detailed explanations of these facilities is provided below.

Phase 3: The Sensor Characterization Facility(SCF) which will evaluate the sensors performance is to be equipped in the final phase. Also equipment for the Signal Processing Evaluation Facility(SPEF) is to be purchased. Detailed explanations of these facilities are provided below.

This Signal Processing System consists of four separate facilities that each serves an important role in completing this system. A brief description of each facility is provided here, along with a diagram (Fig. 1.0) showing the interconnection of the information that transitions between facilities.



Signal Processing System
Fig 1.0

1.1 Data Collection Facility

The primary purpose of this facility will be to collect and archive high quality data from various sensors/seekers. It is imperative that this data be of the highest quality because all of the algorithm development will be based upon this data. Therefore a high speed digital data storage medium is required. It will represent a wide cross-section of imagery that includes background scenes such as clouds, mountains, urban, and blue sky. In addition, a wide variety of targets will exist in these background scenes. It will be a so called "view of the world". The data could be in variety of formats such as 8 MM tape, DCRSI tape, VHS, etc. and provisions for translating between formats is necessary. The quantity of data for just one ground test is significant, so an efficient data retrieval system is needed. For just 10 minutes of flight data from a 128 squared array, would require 900 Megabytes of storage .

1.2 Image Processing Facility

This facility will be used for developing and testing algorithms on data supplied by the Data Collection Facility. In addition, extensive analysis of these algorithms will be achieved that includes statistical properties, effectiveness, and performance parameters. To operate effectively, this facility needs a high-end workstation that will perform a large amount of number crunching on massive amounts of data. With the increasing amount of information from the sensor personal computers are bogged down. For example, if a sensor was composed of a 128 squared FPA operating at 60 Frames/Sec and 12 bits/pixel that would equate to 1.474 Mbytes/Sec. To properly evaluate the algorithms a simulation would have to be executed that models the seeker, target , atmospherics, and any other parts of the system that could possibly have an impact on the algorithms. Again this would require a high end computer that could handle this large amount of data and be able to process it in real time. It also requires workstations and software tools to perform image translations, rotations and transformations all of which are very computer speed intensive. In addition, algorithms for acquiring/tracking multiple targets and eluding countermeasures will be executed. These workstations will also need existing software tools to conduct statistical analysis and graphical display.

The output of this facility is the recommended algorithms for acquiring, tracking targets in clutter and countermeasures. These algorithms are then sent to the Signal Processing Facility to be integrated in the hardware and software environment as efficiently as possible.

1.3 Sensor Characterization Facility

The primary purpose of this facility is to evaluate the performance of the sensors. This is critical to insure that the performance parameters are well understood and also given to the image processing facility. For example a Focal Plane Array(FPA) will have such measurements as temporal noise, non-uniformity, Dark Current, detector responsively and spectral response. To record this data an acquisition system along with the proper data media is necessary. Target presentation is required both point and extended sources and high and low temperature . In addition, generic interfaces are needed to allow the integration of the seekers/sensors with the evaluation equipment. Blurring occurs from the optics and needs to be quantified and a system to measure this is needed.

1.4 Signal Processing Evaluation Facility

This facility will evaluate the real-time algorithms running on the target hardware. This facility will provide critical information to the design engineers on what is the best hardware and software architecture for an application.

It will consist of an array of processors such as Wavelet, Fuzzy Logic, Neural linear and others. These processors will share a standard interface, so they can be connected in a number of ways. In addition, simulated and real data can be interfaced with the processors to conduct thorough evaluation of the algorithms.

Signal and logic analyzers are needed to evaluate the hardware performance and test the signal integrities.

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)												
											A. FY1998/1999 APPORTIONMENT BUDGET	
B. Department of the Navy/Research & Development						C. COMPETITIVE ENGINEERING ENVIRONMENT 4WD4KL0401PR						D. NAWC
	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST	1	623	623	1	833	833	1	1,250	1,250	1	700	700

OPERATIONAL DATE 15-May-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$2,537,400	$0	$2,537,400
AVERAGE ANNUAL SAVINGS (Discounted)	$1,923,748	$0	$1,923,748
PAYBACK PERIOD	1.8	#DIV/0!	1.8
RATE OF RETURN (ROR)	47%	0%	47%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

This is a continuation of the phased project for the Airframe, Ordnance, & Propulsion Division's effort to provide a competitive engineering environment for all 473000D's mission areas and lower administrative and project costs by increasing the efficiency of the Division's equipment and personnel.

Through the use of our communications network we are automating in all areas that are adaptable to automation. This project provides real-time monitoring systems for the management of Safety and Environmental concerns associated with energetic materials, and real-time monitoring and remote operation of process and test control systems. The safety provisions included in this project provide unquantifiable benefits.

This phase will:

1. Complete the on-line atmospheric monitoring system
2. Begin upgrades to obsolete wiring, network end equipment, and two file servers as well as adding a desktop image transfer system
3. Consolidate, modernize and connect processing equipment controls to the network
4. Add test equipment to the network for real-time operation and surveillance
5. Continue the modernization and enhancement of engineering computing capabilities

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

Our current communications network does not yet serve all locations that need this capability, particularly in the processing areas which require atmospheric monitoring, safety data collection, and remote process operations. In an energetic work environment it is necessary to maintain constant surveillance of weather conditions. Atmospheric electric potential creates an unsafe situation for the operation of explosive processes and it is critical for the operators to know immediately when the static electric potential reaches a certain point so that they may shut down the operation to prevent possible detonation. There is a need for immediate access to this information as well as historical records. By installing additional monitoring stations and connecting them to the existing network, notification of unsafe conditions can then be made available to any designated desktop computer on the net. The data from these monitoring systems can be accessed and analyzed real time or at any given time via a data server located on the network.

Older components of the communications network are limited in performance, do not meet memory requirements, and will not support the current demands of newer technology and software. System crashes occur frequently. There is a need to increase the bandwidth capability of the existing network to 100 mbps and beyond for the exchange of large engineering design files and to allow for digital video monitoring of explosive processes and multi site video desktop conferencing and image exchange. Inadequate internal building wiring needs replacement in selected areas to increase speeds to accommodate engineering design applications. Network servers need upgrading to handle both increased storage capacity and increased usage. This requires multi-protocol capability and multi-disk storage systems to insure data integrity.

The energetic process control systems for mixers and ovens have become obsolete and unreliable to the point that they no longer function dependably nor do they provide the accuracy and the complete data required by current projects. There is a potential for control failure in any of these systems which could result in a loss of a mix at some point - mix and materials which could cost approximately$24K to $34.2K in material and labor for a single mix. These controls are in dire need of upgrades since forty year old technology will no longer accommodate modern requirements. Upgrades must be networkable and also standardized for ease of maintenance.

Consolidating three control systems into the newly constructed central mixer control room will reduce the number of people necessary to perform simultaneous operations and eliminate the cost of upgrading four separate systems. The same problem of obsolete and inadequate separate control systems exists in the largest multiuse processing building. The first phase of consolidating and upgrading controls for this building will begin in FY97 and be completed in the final year of this project. Modernization and consolidation of these control systems will provide the accuracy and additional capabilities required as well as produce significant cost savings through better utilization of personnel and a higher yield of successful processes delivered to customers.

Equipment in our detonation physics test area is no longer capable of providing the data collection and resolution required by our customers. Test set up and time intense data reduction is extremely time consuming due to the age and condition of this equipment. By upgrading the electronics and adding two new components to be combined with our existing equipment these costs can be greatly reduced. The capability to record detonation events with ultra high precision through fiber optics design can be achieved. This allows the determination of material properties under high pressure shock loading. These components will maximize accuracy and precision which is required in this technical work as well as increase workforce productivity.

CAPITAL PURCHASES JUSTIFICATION (Dollars In Thousands)		A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Research & Development	C. COMPETITIVE ENGINEERING ENVIRONMENT CONT'D 4WD4KL0401PR	D. NAWC

NARRATIVE CONTINUATION SHEET:

Existing engineering workstations, archival storage, and peripheral equipment in the Division have aged to the point that some do not have the speed, capacity, or capability to perform current engineering design requirements. Compatibility is becoming an issue. Maintenance and repairs are more frequent and harder to get from vendors and downtime costs are increasing. A phased upgrade/replacement plan is being implemented. Upgrades to existing engineering workstations and related devices will provide the power, memory, interface, and compatibility required. These upgrades will inherently provide additional capability.

Due to the CAO reorganization this Division has increased in size, added two new sites to our area of responsibility, and has acquired additional responsibility to provide engineering equipment and communication services beyond the original project. Unexpected circumstances have arisen that have increased the cost of implementation. These factors require an extension of one year (to include FY99) to conclude the project and will require an increase in funding as well.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
   1. Status quo
   2. Limited usage of assets -This is unacceptable to the performance of our mission.
   3. Acquire cheaper, slower resources - Also unacceptable as it would be taking a backward step technologically from where we are now.
   4. Contracting out the entire project is estimated at $6,005,317.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?
Yes

5. IMPACT IF NOT ACQUIRED.
The related Minor Construction project of consolidating and centralizing our process control rooms cannot be completed without approval of this project.

Without automating, upgrading, and consolidating our processes we will not be able to meet the increasing demands of our mission with fewer personnel. Progress made thus far on this project will be stalled and the full anticipated benefits will not be realized. Communication within the Division and with other sites will not be effective and efficient and, in some areas, it will be impossible. The level of safety of personnel who work with explosive materials will be in jeopardy due to lack of the ability to continually access monitoring data. Further loss of accuracy and dependability of our assets and products will be incurred. It is imperative that compatibility with technology advances be met, otherwise our assets will become obsolete and useless.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT

NAVSEA OP5 Vol. 1, 6th Rev. #1 Ammunition and Explosive Ashore Safety Regulations for Handling, Storing, Production, Renovation and Shipping
This regulation directly affects the majority of work performed in this Division.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. SURVIVABILITY DIVISION COMPUTER SYSTEM 4WD7KL6014PR

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0	1	540	540	1	352	352			0

OPERATIONAL DATE 30-Mar-98

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$584,000	$30,000	$614,000
AVERAGE ANNUAL SAVINGS (Discounted)	$442,764	$22,745	$465,509
PAYBACK PERIOD	1.8	NA	1.7
RATE OF RETURN (ROR)	49%	3%	51%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. This CPP is submitted for the upgrade of the Survivability Division's (418000D) six-year old computer systems. The division uses a variety of digital computers to address a broad spectrum of information processing requirements. These are: (1) an unclassified computer system in building 91073 used for project management, local and national data exchange, developing presentations, pre/post-processing of analytical data and report writing. This system provides the Division with access to the NAWCWPNS and international unclassified networks; (2) a classified (SECRET) computer system in building 91073 used to run the sophisticated simulations and models needed to evaluate specific proposals that impact the survivability of airborne systems (For example, proposals that affect aircraft signature (i.e., characteristics that determine how the aircraft appears to visible, radar, infrared and acoustic sensors), electronic countermeasures, flight profiles and critical dependencies on flight systems, avionics and sensors.); (3) a classified (TOP SECRET) computer system in building 91073 similar to the SECRET system, although smaller, isolated to run models and simulations at the higher classification level, and (4) a classified computer system for evaluating advanced projects in building 02647. The equipment purchase presented in this CPP addresses upgrading all four systems which, because of their age, are considered to be at least two generations behind the state-of-the art in computing capability. A detailed description of the proposed upgrade is presented in Figure 1 and Tables 1 and 2.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The Survivability Division is the primary supplier of Probability of Survival (Ps) data used in the design and development of Navy weapons and aircraft. Ps data is derived from a detailed evaluation of the interaction of sophisticated threats such as guided missiles, radar-directed gun systems, and directed energy weapons (lasers and high-power microwaves) with the platform being developed or modified. Very subtle changes in platform signature, performance characteristics and dependence on sensors may have a critical impact on survivability. Modeling these changes and the impact they have requires a detailed accounting of complex physical interactions; interactions that become more and more complex as more and more technical innovation is introduced to both the threat and the candidate airborne systems. Furthermore, since the modeling must also account for the variability in threat performance, survivability enhancements and the environment (weather, terrain, time), statistical samples must be developed involving numerous runs of the given models. This requires high-speed, high-volume computing, especially when the survivability assessment often involves several enhancement options and several threats. Assessments of numerous, complex engagements with the computer systems currently available in the division require long run times. Providing the results of analysis in the graphics formats necessary for accuracy and clarity also requires lengthy processing time on the current systems. In an effort to compensate for these long run times, more analysts are assigned to single projects so the time consuming runs can be made simultaneously. Even with this approach, the times required to do modest projects and the cost of having several analysts involved are too high. This approach does not solve the problem of the increasing run times required to deliver the high resolution graphics customers need.

The benefits of the proposed upgrade are expected to be an information processing capability that will enable the Survivability Division to meet the increased demand for more detailed (accurate) analysis, more graphical analysis, the examination of more contingencies (more runs) and integrated analysis (simultaneous examination of missile, gun and directed energy threats). It is estimated survivability analysts will be able to perform four to five times as much analysis with the upgrade proposed here, and in some cases the improvement may be ten to fifteen-fold.

A more detailed list of justifications for specific components of the proposed system are presented in Table 3.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? Primary alternative is to assign the survivability analysis work to a commercial analysis provider. This alternative has limitations, namely, 1) The evaluation of weapon systems involves a detailed appreciation of the weapon system itself and the tactical environment in which the system is to be used. NAWCWPNS is closely associated with the design, testing and performance of Navy weapon systems and the Survivability Division has direct and immediate access to this information and the network of engineers and analysts that produced it. This means analysts in the Survivability Division have a substantial advantage over other analysis providers in appreciating the details of analysis problems involving Navy tactical aircraft weapon systems. 2) Even if the commercial providers of analysis could achieve the access already in place for NAWCWPNS employees, some of the analysis is performed under circumstances that limit commercial involvement. Furthermore, the issue of "conflict of interest" must be considered when the commercial provider of analysis is also the builder of the system undergoing evaluation.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? The customers have made their requirements known for increased quantity and accuracy of analysis, quick turn-around in response to "What if?" questions and better ways of presenting input and output data (friendly user interfaces and more graphics). The equipment acquired with this CPP is in direct response to these requirements.

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Research & Development	C. SURVIVABILITY DIVISION COMPUTER SYSTEM CONT'D 4WD7KL6014PR	D. NAWC

NARRATIVE CONTINUATION SHEET:

5. IMPACT IF NOT ACQUIRED. The Division is the primary supplier of Probability of Survival (Ps) data used in the design and development of Navy weapons and aircraft, as well as the Analysis Of Alternatives (AOAs) associated with such programs. Without the equipment proposed in this CPP, the Division will not be able to provide the analytical support required to assess technological advances in survivability enhancements or advances in the threats to our airborne weapon systems. Additionally, the Division and the Navy, have become the recognized leader within DOD in the area of modeling and simulation verification, validation and accreditation (VV&A). VV&A processes developed and managed by the Survivability Division are becoming widely accepted with the DOD and industry, and is resulting in increased demand for analytical capability to support them. The capability to perform in this area is greatly enhanced with the requested upgrades.

More details regarding the impact are presented in the attached text and Table 3.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT: N/A

UNIQUE ASPECTS OF SURVIVABILITY ANALYSIS FUNCTION AT NAWCWPNS

1. Survivability analysis is an element of mission effectiveness analysis which is itself an element of campaign analysis and mission planning. All these analysis and planning functions exist at NAWCWPNS and they are linked functionally and organizationally. This means the impact of survivability enhancements can be measured in the engineering context (e.g., changes in Ps as signature changes) as well as the mission context (e.g., changes in sorties required to defeat a target as Ps changes).
2. The Joint Accreditation Support Activity (JASA) program office is part of the Survivability Division and the same analysts employed by this office to provide verification, validation and accreditation (VV&A) of models are also involved in assessment projects. This provides a diversified work force that understands the differences between simulations and the "real world."
3. There is a very substantial analysis capability associated with vulnerability. This capability is closely tied to the Weapons Survivability Laboratory (WSL) which is an integral part of the Survivability Division. Data collected during live firings at the WSL are used extensively in the VV&A and improvement of the vulnerability analysis methodology.
4. Analysts in the Survivability Division access models and simulations that address the full spectrum of airborne platforms and threat systems and functions. Platforms include fixed and rotary wing aircraft and remotely piloted vehicles, cruise missiles, glide weapons and missiles. Threat systems include detection systems, Surface-to Air Missiles (SAMs), guns and directed energy weapons (laser and high-power microwave). Threat functions include missile fly-out, warhead performance and fuse performance. The full spectrum of survivability options can be assessed including signature management, maneuver, hardening, countermeasures, redundancy and situational awareness.

The demand for higher speed, higher volume computation is stimulated by: 1) The demand for more accuracy in modeling--even to the point of substituting for operational testing, 2) The demand for user friendly input and output interfaces to models and simulations, 3) The demand for high-resolution and animated graphics outputs, 4) More sophisticated computer operating systems, 5) Meeting the challenges of modeling very complex phenomena such as terrain, weather, signatures, electronic countermeasures and command, control and communications networks, 6) The demand for assessing the impact of more and more variables over wider ranges of deployment conditions. By obtaining computer systems with the computational capacity proposed in this CPP we not only provide a hardware solution to these demands but we free much needed personnel resources to respond to another demand, namely, more projects requiring analysis in all phases of the acquisition process.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. RAPID PROTOTYPING ENV FOR REAL-/TIME SYS (PHASE 2) 4WD7KL6171PR

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0	1	500	500	1	865	865	1	800	800

OPERATIONAL DATE 1-Sep-98

METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$830,000	$0	$830,000
AVERAGE ANNUAL SAVINGS (Discounted)	$629,271	$0	$629,271
PAYBACK PERIOD	1.2	#DIV/0!	1.2
RATE OF RETURN (ROR)	73%	0%	73%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. The Rapid Prototyping Environment for Automatic Target Recognition (ATR) Real-Time Systems is a hardware/software laboratory which will significantly enhance the current method of developing and testing nonreal-time and real-time systems for (ATR) applications. This laboratory environment consists of: (1) Online Mass Data Storage System, (2) High Speed Parallel Processing System, and (3) Synthetic Data Generation System. The laboratory will be compatible with the Configurable Real-Time Development Environment currently being developed by the Army and Air Force for their real-time ATR developments. This system will also be compatible with the real-time Common ATR Architecture under development by the Navy, Army, and the Air Force. The Common ATR Architecture is currently the projected real-time processor environment for several Air Force and Navy surveillance ATR applications.

This is the second phase of a three-phase procurement. The total cost for Phase 2 is $865,000 while the cost for the complete system is $2,165,000. The Phase 2, FY98, procurement will provide the core of the parallel processing capabilities required for the future ATR development. The types of processing driven by the NAWCWPNS' ATR problems and the required (due to project requirements) compatibility with other service developers dictates the following three types of processors for NAWCWPNS' ATR development: (1) Single Instruction Multiple Data (SIMD) processor for real-time fixed point convolution type processing, (2) Multiple Instruction Multiple Data (MIMD) processor for real-time floating point parallel processing and real-time parallel processes with each process having a different functionality, and (3) multiprocessor parallel computing center which will allow ATR algorithms and systems to be developed and tested in a user friendly UNIX environment before being implemented on the SIMD and MIMD processors. The SIMD processor and the multiprocessor computing center will be procured in phase 2 while the MIMD processor will be procured in phase 3.
The complete three-phase procurement is shown below:

Online Mass Data Storage System
- UNIX Multiprocessor Server $355,000 FY97
- High Throughput Data Channel $30,000 FY97
- Data Base Software $15,000 FY97
- Tera Byte Optical Disk Juke Box $100,000 FY97

TOTAL COST FOR FY97 $500,000

System description, cost, and purchase years:

High Speed Parallel Processing System
- SIMD (Equivalent to DAP by Cambridge Parallel Processing) $250,000 FY98
- Multiprocessor Parallel Computing Center $585,000 FY98
- Parallel Processing Software Environment $30,000 FY98

TOTAL COST FOR FY98 $865,000

High Speed Parallel Processing System
- MIMD - Upgrade of Additional Nodes $340,000 FY99

Online Mass Data Storage System
- 400 Giga Byte Magnetic Disk Farm $100,000 FY99

Synthetic Data Generation System
- Processor Compatible with Air Force XPATCH Radar Simulation $180,000 FY99
- Processor Compatible with NRL Radar Simulation $180,000 FY99

TOTAL COST FOR FY99 $800,000

TOTAL COST $2,165,000

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Research & Development	C. RAPID PROTOTYPING ENV FOR REAL-/TIME SYS (PHASE 2) CONT'D 4WD7KL6171PR	D. NAWC

NARRATIVE CONTINUATION SHEET:

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? ATR systems for maritime and land targets have been under development at the Naval Air Warfare Center Weapons Division, China Lake for the past twenty years. During this time, the computer requirements for ATR systems has evolved in three distinctive steps. Initially, during the late seventies and early eighties, data sets were composed of one-dimensional profiles of hundreds of megabytes in size. Mini computers such as the DEC VAX provided the computation and data storage capabilities for processing this data set. However, in the last half of the eighties, the data sets became larger and processing requirements increased beyond the capabilities such mini computers could economically supply. High performance workstations and gigabytes of disc storage were purchased to support these new needs. In the 1990s, the capabilities of the workstation solution have been completely surpassed because of the following five computing resource requirements of ATR developments: (1) processing of multiple input terabyte data sets composed of two-dimensional imagery, (2) complex ATR systems composed of a wide spectrum of signal processing, image processing, and pattern recognition algorithms, (3) emerging development of real-time algorithms and systems for 6.3 demonstration, (4) need for more efficient development integrated into a coordinated transition of technology from 6.1 research to 6.2 system, and finally to 6.3 demonstration, (5) required cooperative development with other Navy labs and other services. These requirements have precipitated a drop in the amount of time which an engineer spends on the development of ATR systems because of a corresponding rise in the effort needed to manage large data bases and develop software to support data bases and development of parallel processing for real-time systems.

Phase 2 of the Rapid Prototyping Environment for ATR Real-Time Systems will give NAWCWD-CL a unique capability in the development of ATR systems for surveillance and weapon systems. The parallel processing capability afforded to projects by this environment will allow more iterations through the algorithm design and system evaluation cycle during the life of the project. This will allow more issues to be resolved and to be resolved better than is currently possible. More iterations through the design and evaluation cycle is especially important in ATR systems in which there is no analytical relationships between many of the system component functions. Thus, empirical results are the only method of evaluating the affect of a change in a part of the system. Compatibility of this system with the Configurable Real-Time Development Environment and the Common ATR Architecture will enable the Navy to leverage millions of dollars of ATR developments by other services and government agencies.

The proposed phase two procurement will provide hardware and software capabilities addressing the above five requirements. It will improve the competitive posture of NAWCPNS-CL by reversing the current trend toward lower productivity rates for project engineers. It will reduce the amount of time an engineer must spend on the management of data bases, and the development of software to support data base management and development of real-time ATR systems. This will allow an engineer to spend more time on the development of the ATR system itself. This will contribute (along with phase one and phase three of the procurement) to the reduction in the development cost of the ATR system and reduce project development time from the current four or five years to three years (as currently specified by ONR). Thus, this laboratory will facilitate a better product within sponsor dictated development times. This cost comparison is based on the cost and the improved capabilities for the phase two procurement only. It assumes that the current method includes the phase one procurement.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? The best alternate method is to contract out the evaluation. This alternate is actually a higher cost solution (see the cost analysis below).

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT: Yes, current Office of Naval Research and NAVAIR customers support the proposed Rapid Prototyping Environment for ATR Real-Time Systems to provide them with a better product for their investment dollars.

5. IMPACT IF NOT ACQUIRED. The capability of ATR systems to process large amounts of data and cue human interpreters is being recognized as an important factor by surveillance and weapon system program offices as they prepare for future conflicts. NAWCWPNS, China Lake has developed first generation ATR systems for the Navy. However, the Rapid Prototyping Environment for ATR Real-Time Systems-Phase I is critical to China Lake being able to deliver second generation ATR systems to Navy aircraft and weapon platforms. If this system is not procured, the productivity of ATR system development will seriously decline. This will mean increased cost to 6.2 and 6.3 ATR projects. In the face of decreasing funds and tighter development schedules, more costly systems lead to the development of fewer ATR systems and consequently less war fighting capabilities for the DOD budget dollar.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. DMS TECHNOLOGY INSERTION 7AA8KL7233GR

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	3,083	3,083	1	3,149	3,149

OPERATIONAL DATE	30-Jun-98		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$3,400,000	$0	$3,400,000
AVERAGE ANNUAL SAVINGS (Discounted)	$2,577,735	$0	$2,577,735
PAYBACK PERIOD	3.3	#DIV/0!	3.3
RATE OF RETURN (ROR)	28%	0%	28%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. DMS (Defense Messaging System), an x.400 based messaging system will replace AUTODIN as well as proprietary E-Mail within DOD. Electronic Mail is recognized throughout the Navy as the primary mechanism used by all teams to communicate. This DMS Technology Insertion program supports various NAWCAD sites (Patuxent River, St. Inigoes, Lakehurst, and Trenton) and the connectivity to other DOD sites including, but not limited to, NAVAIR NAWCWD (China Lake and Point Mugu), NAWCTSD, NAVDEP (Jacksonville, North Island, Cherry Point, etc.), and other contractor sites. These E-Mail systems must comply with the X.400 and X.500 open systems standards that will enable seamless connectivity to the various DOD organizations. This investment will position us with the correct hardware and software to migrate to the Defense Messaging System (DMS) as mandated for both the clients and the back end systems. The systems include the hardware and software to support the local Post Offices, client workstations and peripherals, the Network Operating System, Message Hubs, Remote Dial-In/Dial-out solutions, software technology upgrades and Off-Site connection devices.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The Information Management Department within the NAWCAD has taken the lead role in the support and integration of E Mail for all NAWCAD sites. This requires us to maintain systems compatible with the current industry standards and to be ready for future requirements (DMS) as they become available. Currently the software being used is being re-written by the manufacturer to incorporate many new features including higher reliability, centralized and decentralized administration functions, compliance to industry standards (X.400/X.500), and a client-server architecture. This will greatly improve the capabilities of the E-Mail system for both the on-site users as well as those users that are "on the road". This will also position us on the necessary path to DMS. Hardware will need to be updated to take advantage of the software capabilities and adherence to DMS standards. The NAWCAD currently has over 11,000 desktop computers used by engineers, scientists, administrative personnel and management to perform business and scientific functions. Continual updates to the hardware and software is mandatory for NAWCAD to be in compliance with industry standards and DOD mandates.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? The alternative of status quo is an option but this will not allow NAWCAD to be in compliance with DOD DMS mandates. During 1998, NAWCAD will be operating obsolete mail and messaging architectures and the maintenance costs associated with these systems would be greatly increased. The most important concern about status quo is the costs and penalties associated with AUTODIN.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? A limited number of alternatives exist for an X.400/X.500 Electronic Mail application (satisfying individual message mandate). The customer has been involved in the testing of these alternatives and will continue to be involved. The Information Management Department continues attending DMS related meetings to stay informed of the latest changes so that we may inform our customers. The customers are informed that an electronic mail and AUTODIN change is mandatory.

5. IMPACT IF NOT ACQUIRED. If the procurement is not made, NAWCAD will not be able to comply with the mandatory DMS compliance requirement. This input is being submitted based on the concept that planning for the future is better than crisis management and that continuous improvement in our E-Mail system is critical.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. ASQ-212/222 LABORATORY COMPUTER
4AA8KL4133PR

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0	1	750	750			0

OPERATIONAL DATE 31-Mar-98

METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$285,000	$0	$285,000
AVERAGE ANNUAL SAVINGS (Discounted)	$216,075	$0	$216,075
PAYBACK PERIOD	3.2	#DIV/0!	3.2
RATE OF RETURN (ROR)	29%	0%	29%

PROJECT INFORMATION NARRATIVE. (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.
On September 30th 1996, the Maritime Surveillance Aircraft (MSA) Program Hardware Integration Center (PHIC) was turned over to the Navy by the BRAC '91 move committee after successfully moving it from Warminster, PA to Building 2185 here at Patuxent River. This 12,000 square foot facility contains the Software Development Facility (SDF), the Module Test Bed (MTB), the Acoustic Test Area (ATA), and all supporting spaces for office, spare parts, fabrication shops, etc.. The PHIC provides a man-in-the-loop software and hardware test bed used to support the P-3C programs within MSA. The PHIC provides cradle-to-grave development, integration, and test support for P-3 software including Tactical Mission Software (TMS), System Test Program (STP), Acoustic System Software, and Simulation System Software. These software products provide the following capabilities for the P-3C:
· Tactical Mission Software(TMS): Provides Command and Control, Non Acoustic Sensor Control, Weapon Systems Control, Navigation, and Aircraft Systems Control.
· System Test Program(STP): Standard software used to 'ground check' the P-3C avionics systems prior to flight. Provides various levels of Built-In-Test (BIT) support
Acoustic System Software: Specialized software used by the AN/USQ-78 Single Acoustic Signal Processor (SASP) to process, analyze, correlate, and display acoustic sensor data.
· Simulation System Software: Provides real time man-in-the loop simulation in the PHIC.
The PHIC contains multiple sets of full-scale mission avionics as well as several simulation/stimulation systems for both acoustic and non-acoustic sensors. The primary mission of the SDF is to provide a facility for testing the TMS and Acoustics programs while integrated with the P-3C avionics. The primary mission of the MTB is to provide a facility for testing the STP integrated with the P-3C avionics. Ancillary facilities are also provided within the PHIC for specialized projects such as Acoustics. Current programs supported include the P-3C UIII baseline, BEARTRAP, Acoustic Upgrade program (AN/USQ-78A), and Foreign Military sales (FMS).

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?
With the current emphasis on utilizing Commercial Off The Shelf (COTS) in mission critical systems, one must adapt legacy non COTS systems to work with COTS systems. The current P-3C UIII is based on a ASQ-212 which we have two versions supporting two UIII labs based on legacy systems. The next generation of P-3C upgrades are under a program called ASUW Improvement Program or AIP. This program uses a version of the ASQ-212 and COTS hardware for its ADP system. The production contract for AIP did not include any ASQ-222s for facilities. In order for us to provide lab support of the AIP program, we need to purchase/obtain a ASQ-222 capability in the MSA PHIC.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
Software simulation of the ASQ-222 was considered, but no in-house or outhouse expertise was found that could do the task. Software emulation of hardware always carries a performance price and since the AIP aircraft is a distributed system, hardware timing is critical. It was felt the emulation path would yield marginal results

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?
Yes. Under our current 'charter' with NAVAIR, it is our responsibility to continually maintain and where needed upgrade our facilities to meet changing requirements. The sponsor is aware of the lack of an ASQ-222 asset and also aware of this proposal.

5. IMPACT IF NOT ACQUIRED.
If systems are not upgraded, facility capabilities will fall further behind in its ability to support NAVAIR PMA-290 products such as AIP and represents a potential loss of business

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)												A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Research & Development							C. STANDARD PROCUREMENT SYSTEM (SPS) 7AA8KL7000GR					D. NAWC
	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
TOTAL INVESTMENT COST	0		0	0		0	1	VAR	679	0		0

PROJECT INFORMATION NARRATIVE:

1. DESCRIPTION & PURPOSE OF PROJECT. The Standard Procurement System (SPS) is a DoD-wide standard acquisition automated system which is mandated by the Office of the Secretary of Defense (Ref: OUSD memo of 12 July, 1996, Subj: Contracting Software Policy Guidance and ASN (RD&A) memo of 20 Feb 1997, Subj: Standard Procurement System. The first DoD service to be implemented with SPS is the Navy. Because funding has only been allocated by the SPS Program Management Office (PMO) of the SPS software, NAVAIR has identified TEAM funding requirements for both the EOB and NWCF communities. However, since some costs are nonseverable, the EOB community has budgeted for and will absorb those costs. The funds required in the NWCF community are to cover hardware infrastructure and implementation costs specific to a site. The SPS System's database is a commercial off-the-shelf using PD2 database. PD2 is an automated, Windows-based procurement system that supports all phases of the Defense Acquisition processing, including requisition processing, major weapons contracting (pre and post award), service contracting (pre and post award), contract administration, small purchase pre and post award, etc. The paramount feature of PD2 is that it is an electronic Desktop, complete with folders, cabinets, and routing envelopes. Users can copy and paste text from PD2 to other Windows application. PD2 is EDI compliant/capable and will interface to MOCAS (or the future DPPS). It will send information to a centrally maintained Shared Data Warehouse. This will result in centrally maintained data that is required for answering data calls to higher authority. This system will eliminate the need to care for, maintain and fund many, many contract locally homegrown automated MIS systems currently in place across the Contract Competency.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? SPS is a DoD-wide standard automated system. The intent is to migrate all procurement systems to SPS which will support information that will be used to make various executive decisions.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? SPS is a DoD-mandated standard acquisition automated system. There are no automated alternatives.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? SPS is a DoD-mandated standard acquisition automated system. It is a commercial-off-the shelf software which has been modified for DoD-specific contracting requirements.

5. IMPACT IF NOT ACQUIRED. ASN has stated that contracting authority will be revoked for any Navy Command that does not implement SPS. If SPS is not fully funded, it will not implemented and therefore, NAVAIR could lose its contracting authority. In addition, OSD has mandated not only the DoD-implementation of SPS, but all legacy system will cease to be operated, supported, and maintained. Furthermore, funding approval for future system development, regardless of the size, that duplicates SPS functionality will not be granted.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. Not applicable.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. COMPUTER FOR COMPUTATIONAL ANALYSIS 4AA8KL4300PP

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0	1	650	650			0

OPERATIONAL DATE 31-Jul-98

METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$1,045,000	$0	$1,045,000
AVERAGE ANNUAL SAVINGS (Discounted)	$792,274	$0	$792,274
PAYBACK PERIOD	0.7	#DIV/0!	0.7
RATE OF RETURN (ROR)	122%	0%	122%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

The computer system is a scaleable parallel computer with 16 High-Speed Processors, a high-speed inter-processor communications network, and 2 GB of distributed memory. The computer system requires no special facilities or support personnel. It i required to support the rapidly escalating computational fluid dynamics based aerodynamic analyses for technology development and acquisition program support. The computer will provide the ability to efficiently use emerging parallel CFD codes that would run inefficiently on existing computer hardware. It will be located in the Aeromechanics Computer Facility, (Bldg. 2187 at Pax) with air conditioning and power requirements well within the existing utility service designed into the Facility. T computational analyses are being conducted in support of research (6.1), technology development (6.2) and fleet project support tasks (6.3/6.4) including F/A-18C, F/A-18E, JDAM, BQM-74, etc., as well as outside sponsors such as OSD and Army. CFD is being used currently to support two ILIR (6.1) programs as well as three 6.2 programs as part of the Aerodynamics Technology and Methods Task of the Air Vehicle Technology Program. The use of CFD is critical and essential in support of these 6.1 and 6.2 programs to meet program milestones. The funding base of this technology program has increased significantly over the last five years as a result of the application of CFD technology. The use of CFD in support of acquisition programs is becoming more routine by government and industry and each program has a need to reduce the time associated with the CFD process down from the "months" time frame to the "weeks" time frame. One of the major pacing items for this significant potential in reducing the time frame of CFD is the efficient use of the newest parallel computers.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

The combined use of current in-house computer, NASA computer systems and DoD High Performance Computing Centers is far short of our current requirements. As a result of a shift of NASA away from a military R&D focus, our NASA supercomputer allocation has been cut by 2/3rds compared to what was previously granted. In past experience, the NASA computers systems were preferred over the DoD computers because they were very responsive to our requirements. The DoD High Performance Computing Centers rarely turn away users and do not limit the time each user gets. As a result, the DoD computers are extremely over-subscribed. We have experienced delays in the turn-around time for a single aerodynamic simulation that has lasted t to a month at the DoD High Performance Computing Major Shared Resource Centers. Delays that exceed a day are significant when supporting an acquisition program. In addition to the shortfall in computing capability provided by outside computer systems, the current in-house computer technology used to support computational analyses is over five years old and was only operational 60% of the time last year due to hardware failures. Over the last five years, there has been a revolutionary shift away from serial computer CFD programs to parallel CFD programs. The current in-house computer was not designed to efficiently use the newest parallel CFD programs.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

The only alternative would be to purchase dedicated computer time on a parallel computer owned by an outside vendor. Based on our current computer requirements, we estimate that the cost of buying time on a parallel computer from an outside vendo would cost in excess of $1,000,000 per year.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?

Yes.

5. IMPACT IF NOT ACQUIRED.

Failure to acquire this computer will severely restrict our business development associated with the use of computational fluid dynamics, especially in support of acquisition programs. We have spent the past nine years in developing such a capability, an are currently advancing the state-of-the-art in computational tool development and analysis with a reputation that is now recognized nationally and now being sought by sponsors on fleet problems. Our current and future requirements exceed our current capacity. This computer is critical to the continued development of this high visibility, highly successful business base and to position the Navy on the leading edge of computational aerodynamic analyses.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT

N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. CAD II

8AA9KL8013GN

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	500	500

OPERATIONAL DATE 1-Jul-99

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$126,000	$16,000	$142,000
AVERAGE ANNUAL SAVINGS (Discounted)	$95,528	$12,131	$107,658
PAYBACK PERIOD	5.3	NA	4.6
RATE OF RETURN (ROR)	19%	2%	22%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

This project involves the purchase of Intergraph hardware, communications products, operating systems, databases, management systems and software

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

This procurement involves computer aided design equipment necessary to support ongoing engineering efforts within the Public Works area. Support provided by the Public Works engineering division has increased dramatically with the Warminster realignment and with the NAVAIR relocation efforts. Anticipated unquantifiable benefits include increased engineering support provided by the Public Works department.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

Contracting out would cost $467,000 annually.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes

5. IMPACT IF NOT ACQUIRED.

If the procurement is not made, the engineering division of Public Works will lack appropriate support in order to meet existing and future requirements. Current computer aided design systems will not appropriately handle the workload associated with on-going realignment and relocation efforts.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. None exist.

CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)												A. FY1998/1999 APPORTIONMENT BUDGET
B. Department of the Navy/Research & Development						C. COMMUNICATION SYSTEM UPGRADE 7WD3TL0084GR						D. NAWC
	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST	1	4,250	4,250	1	1,680	1,680	1	1,450	1,450	1	1,300	1,300

OPERATIONAL DATE	1-Mar-98		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$1,165,250	$0	$1,165,250
AVERAGE ANNUAL SAVINGS (Discounted)	$883,443	$0	$883,443
PAYBACK PERIOD	1.6	#DIV/0!	1.6
RATE OF RETURN (ROR)	53%	0%	53%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

This project encompasses the data communications system for NAWCWPNS at the China Lake and Point Mugu sites. The purpose of the project is to upgrade the data carrying capacity and reliability of the system at specifically targeted segments which have either a rapidly growing demand or have particularly low capacity for their users. The introduction of current end equipment and infrastructure technology will modernize these segments enabling them to carry the high capacity application programs users are requiring to perform in the multi-site, CAO organization. The data communication segments identified for improvement include the campuses of CL NAF, CL Mainsite, CL Michelson Lab Compound, CL ARL LAN, PM MuguNet Backbone, PM North Base, PM Bldg 512 LAN, PM Bldg 65/612 LAN. All of these segments interrelate to create a single communications system.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

Many of the segments are running on technology that is many years old. This results in inefficient use of the fiber optic infrastructure currently in place and increased operations labor necessary to maintain and troubleshoot the system. The introduction of new, bandwidth intensive applications running over the communications system has also stretched the current system to its limits creating errors and delays in service. These delays and errors reduce the productivity of the majority of the workforce at NAWCWPNS. Enhancement of the communication system will eliminate the delays and errors, reduce the operations labor necessary to maintain the system, and position NAWCWPNS to introduce as yet undefined applications which would improve the effectiveness of its workforce.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

The other alternatives are:
1)do nothing and live with the continuing reduction in capabilities and operations labor costs as new applications are added to the network
2)do nothing and limit the introduction of new applications on the network thus slowing the degradation of data comm. performance
3)choose a different mix of segments to upgrade.

Numbers 1 & 2 were eliminated due to the increased pressure on IT systems in today's CAO and business environment. Number 3 was eliminated since the selection of those segments funded by this project were arrived at through a prioritization process which included all other conceivable options.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?

Customers have been involved and agree with the projects.

5. IMPACT IF NOT ACQUIRED.

Without replacement equipment the existing network will begin failing piece by piece. Without new equipment many new requests for network connectivity due to consolidation, moves, new construction or new performance requirements will not be accomplished. Network bottlenecks will be created due to higher levels of usage saturating the existing network capacity causing severe throughput degradation. This network has become a critical communications tool not only for China Lake/Point Mugu personnel, but also in their communication and data transfer with other NAWC/NAVAIR sites.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT

N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. FIBER OPTIC TRANSMISSION EQUIPMENT
7AA7TL0723GR

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0	1	2,473	2,473	1	1,750	1,750	1	1,250	1,250

OPERATIONAL DATE 1-Jul-98

METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$1,500,000	$0	$1,500,000
AVERAGE ANNUAL SAVINGS (Discounted)	$1,137,236	$0	$1,137,236
PAYBACK PERIOD	4.7	#DIV/0!	4.7
RATE OF RETURN (ROR)	21%	0%	21%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. This submission is for a multi-year project to provide a fiber optic system throughout NAWCAD Pax River. With the current data, video, and voice cable plants at the end of their life cycle and no room for expansion, it is essential to replace those existing plants with an integrated, state of the art, fiber optic system. BRAC II and III has funded a major portion of the backbone; this submission is for the transmission equipment for buildings/areas not covered by BRAC. The emerging high bandwidth information transfer technologies supporting both project and business requirements will only run on fiber and is essential in positioning NAWCAD at a competitive advantage in terms of attracting declining DOD and RDT&E project dollars.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The requirement exists at the Naval Air Warfare Center, Aircraft Division, Naval Air Station, Patuxent River, to support the real-time availability of scientific and laboratory simulation data such as acoustics, flight, weapons systems, and ordnance testing. To effectively share this volume of information, as well as, other general engineering and business information (generated the 150+ local area networks spread throughout the NAS), a modern, high speed, and expandable communications infrastructure is required.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? Several alternatives have been examined for satisfying the mission needs. These include (1) maintaining the existing voice and data cable plants; (2) replacing the existing voice and data cable plants; or (3) install a high-speed outside fiber optic cable distribution system.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? The owners of the information, the engineers and computer scientists of NAS Patuxent River, have been involved in this effort since the onset. The customers provided the initial requirements, validated those requirements and then participated in the design reviews.

5. IMPACT IF NOT ACQUIRED. If this program is not approved, non-BRAC users will not benefit from the fiber plant. They will be forced to operate on the existing, obsolete coaxial and copper plants. The base will continue to shoulder the burden of maintaining several cable plants of different technologies instead of an integrated fiber optic system.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. FIBER OPTIC/PHONE SUBDISTRIBUTION 7AA8TL7230GR

D. NAWC

Element of Cost	1996 Qty	1996 Unit Cost	1996 Total Cost	1997 Qty	1997 Unit Cost	1997 Total Cost	1998 Qty	1998 Unit Cost	1998 Total Cost	1999 Qty	1999 Unit Cost	1999 Total Cost
INVESTMENT COST			0			0	1	2,119	2,119	1	4,104	4,104

OPERATIONAL DATE 30-Sep-94

METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$2,580,000	$0	$2,580,000
AVERAGE ANNUAL SAVINGS (Discounted)	$1,956,046	$0	$1,956,046
PAYBACK PERIOD	2.9	#DIV/0!	2.9
RATE OF RETURN (ROR)	31%	0%	31%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT. This submission is for a multi-year project to provide the hardware, software, design and installation for an integrated fiber optic system throughout Pax River. With the current data, video, and voice cable plants at the end of their life cycle and no room for expansion, it is essential to replace those existing plants with an integrated, state of the art, fiber optic data and voice system. This project will tie into the already approved Fiber Optic Transmission Equipment CPP Line Item for fiber equipment and hardware. The hardware and software documented here will provide the voice integration into the fiber optic backbone. BRAC II and III has funded a portion of the backbone; this submission is for the final requirements to complete the fiber installation and telephone integration for buildings/areas not covered by BRAC. The emerging high bandwidth information transfer technologies supporting both project and business requirements will only run on fiber and is essential in positioning NAWCAD at a competitive advantage in terms of attracting declining DOD and RDT&E project dollars.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM? The requirement exists at the Naval Air Warfare Center, Aircraft Division, Naval Air Station, Patuxent River, to support the real-time availability of scientific and laboratory simulation data such as acoustics, flight, weapons systems, and ordnance testing. To effectively share this volume of information, as well as, other general engineering and business information (generated by the 150+ local area networks spread throughout the NAS), a modern, high speed, and expandable communications infrastructure is required.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED? Several alternatives have been examined for satisfying the mission needs. These include (1) maintaining the existing voice and data cable plants; (2) replacing the existing voice and data cable plants; or (3) install a high-speed outside fiber optic cable distribution system. Refer to System Decision Paper I/II for details of each alternative.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? The owners of the information, the engineers and computer scientists of NAS Patuxent River, have been involved in this effort since the onset. The customers provided the initial requirements, validated those requirements and then participated in the design reviews.

5. IMPACT IF NOT ACQUIRED. If this program is not approved, non-BRAC users will not benefit from the fiber plant and phone switch. They will be forced to operate on the existing, obsolete coaxial and copper plants which have a very limited lifecycle. The base will continue to shoulder the burden of maintaining several cable plants of different technologies instead of an integrated fiber optic system.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. PREMISES DISTRIBUTION

8AA8TL81D0GR

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0	1	750	750	1	750	750

OPERATIONAL DATE	1-Aug-99		
METRICS:	AVOIDANCE	SAVINGS	TOTAL
PROJECTED ANNUAL SAVINGS	$342,000	$59,000	$401,000
AVERAGE ANNUAL SAVINGS (Discounted)	$259,290	$44,731	$304,021
PAYBACK PERIOD	6.1	NA	4.9
RATE OF RETURN (ROR)	17%	3%	20%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.

This project involves the procurement of cabling and other hardware peripherals required to hook Shore Station Management buildings into the fiber backbone. The project will cover costs that are internal to NAS buildings in connection with establishing/maintaining local area networking associated with fiber installation.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?

The existing networking system is not compatible, and has insufficient speed to transmit data, with the newly integrated fiber backbone that is being installed at Patuxent River. The Naval Air Station's involvement in this project is crucial in order to maintain an effective communications network not only with the Patuxent River complex, but also with outside activities and tenant commands. Once the fiber backbone is installed, being able to allow connectivity to it will ensure that all Shore Station Management buildings will effectively maintain an adequate communications network. Effective network communications will be an unquatifiable benefit of this project. Without this effort, communications will be at a standstill as far as effectively utilizing new project and business application technologies.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?

Contracting out would cost $550,000, along with direct labor costs of $882,000.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT? Yes

5. IMPACT IF NOT ACQUIRED.

The Patuxent River complex is undergoing a major change in network communications with the installation of a fiber backbone. This network involves the installation of a high band width in order to accommodate new project and business application technologies. Without this effort, communications will be at a standstill. This project involves covering the costs that are internal to NAS buildings in order to establish/maintain local area networks that function as a result of the fiber backbone.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. None exist.

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. FIBER OPTIC BRANCHING 7WD8TL8006GR

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0	1	575	575	1	500	500

OPERATIONAL DATE	31-Mar-99		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$526,460	$0	$526,460
AVERAGE ANNUAL SAVINGS (Discounted)	$399,140	$0	$399,140
PAYBACK PERIOD	1.2	#DIV/0!	1.2
RATE OF RETURN (ROR)	69%	0%	69%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.
Fiber Optic Infrastructure upgrade continues with installation of fiber optic cabling to provide corporate connectivity from major hub sites to end-point buildings within population centers are required to meet user communication needs. This project is to support the existing NAWCWPNS corporate network and to establish the infrastructure necessary to support the long-term implementation of the Network Computing Utility concept (a NAWCWD Strategic Initiative). The data communication infrastructure identified for improvement includes the integration of the WD net architecture with Western Test Range Complex network, PM Beach Area, and FOTS upgrades. All of these segments interrelate to create a single communications system.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?
Many of the segments are running on cabling that is many years old. The introduction of new, bandwidth intensive applications running over the communications system has also stretched the current system to its limits creating errors and delays in service. These delays and errors reduce the productivity of the majority of the workforce at NAWCWPNS. Enhancement of the communication infrastructure will eliminate the delays and errors, reduce the operations labor necessary to maintain the system, and position NAWCWPNS to introduce as yet undefined applications which would improve the effectiveness of its workforce.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
The other alternatives are:
1) Do nothing and live with the continuing reduction in capabilities and operations labor costs as new applications are added to the network
2) Do nothing and limit the introduction of new applications on the network thus slowing the degradation of data comm. performance
These were eliminated due to the increased pressure on IT systems in today's CAO and business environment.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?
Customers have been involved and agree with the projects.

5. IMPACT IF NOT ACQUIRED.
Non-connected personnel will continue to function at lower productivity. As old copper based systems become saturated or fail they will not be replaced. Users and projects with high performance communications requirements will attempt to use work-arounds which are inadequate as well as costly and provide no benefits to corporate communication needs.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT
N/A

CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. FY1998/1999 APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. BASE TELEPHONE SWITCHING SYSTEM 7AB9TL7000GR

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
INVESTMENT COST			0			0			0	1	2,575	2,575

OPERATIONAL DATE	30-Jun-99		
METRICS:	**AVOIDANCE**	**SAVINGS**	**TOTAL**
PROJECTED ANNUAL SAVINGS	$920,250	$60,000	$980,250
AVERAGE ANNUAL SAVINGS (Discounted)	$697,694	$45,489	$743,184
PAYBACK PERIOD	3.4	NA	3.2
RATE OF RETURN (ROR)	27%	2%	29%

PROJECT INFORMATION NARRATIVE: (If more space required, continue on separate sheet.)

1. DESCRIPTION & PURPOSE OF PROJECT.
The requested Telephone Switching System will be a replacement and consolidation of the existing 13 year old telephone system and a separate five year old voice mail system into a single integrated system. The investment will provide a new Telephone Switching System that will allow us to continue to provide telephone and voice mail services to all Lakehurst Base activities.

2. WHAT IS THE CURRENT DEFICIENCY/PROBLEM AND HOW WILL THE PROJECT SOLVE THE DEFICIENCY/PROBLEM?
With the current telephone system at the end of its life cycle and no room for expansion, it is essential to replace existing system with an integrated state of the art telephone system. The present telephone switching system is over 13 years old and the manufacturer no longer supports or provides upgrades for the system due to its age. In addition, it is essential that we maintain a reliable, high volume capacity, responsive, and continuously operational telephone system.

3. WHAT PROJECT ALTERNATIVES HAVE BEEN CONSIDERED?
Three of the following alternatives have been considered:
Status Quo - If the system fails, an effort will be made to procure the obsolete parts to repair the switching system. System down time could be extensive, leaving the base without phone service.
Centrex service - This type of service is historically more expensive with monthly recurring charges and the switching system is not in Government personnel control.
Leasing Equipment - This is not feasible since historically it is more expensive.

4. HAS THE CUSTOMER(S) BEEN INVOLVED IN THE SOLUTION AND DO THEY AGREE WITH IT?
The customer has not been involved in the solution due to the nature of the service being provided. Also, all new digital telephone systems provide the same basic features.

5. IMPACT IF NOT ACQUIRED.
System down time could be extensive if repair parts are not readily available and manufacturer does not provide technical support. Failure to provide a replacement to the existing system will leave a significant risk of down-time of the telephone system which can seriously impact and jeopardize the CAO Operations as well as the missions of the Navy. The voice mail system is at total capacity and cannot accept any more users. By consolidating this functionality in a new switch the need for two separa systems and maintenance will be eliminated.

6. IDENTIFY LOCAL, STATE, FEDERAL REGULATION IF ENVIRONMENTAL PROJECT. N/A.

CAPITAL PURCHASES JUSTIFICATION
(Dollars In Thousands)

A. FY1998/1999
APPORTIONMENT BUDGET

B. Department of the Navy/Research & Development

C. DIFMS/NIMMS IMPLEMENTATION & OSE REENGINEERING

NNDL0000

D. NAWC

	1996			1997			1998			1999		
Element of Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
AIRCRAFT DIVISION-Implementation Costs			100			750			1,075			0
AIRCRAFT DIVISION-OSE Reengineering Costs									678			349
SUBTOTAL AIRCRAFT DIVISION			100			750			1,753			349
WEAPONS DIVISION-Implementation Costs						2,801			150			0
WEAPONS DIVISION-OSE Reengineering Costs									655			338
SUBTOTAL WEAPONS DIVISION			0			2,801			805			338
TOTAL NAWC -Implementation Costs			100			3,551			1,225			0
TOTAL NAWC-OSE Reengineering Costs			0			0			1,333			687
TOTAL INVESTMENT COST			100			3,551			2,558			687

PROJECT INFORMATION NARRATIVE:

The NAVAIR Industrial Financial Management System (NIFMS) is the Department of the Navy's Depot Maintenance and Research and Development (R&D) Navy Working Capital Fund (NWCF) interim migratory accounting system. It was recommended by the Defense Working Capital Fund (DWCF) Policy Board, formerly the Defense Business Operations Fund (DBOF) Corporate Board and selected by the Under Secretary of Defense (Comptroller). This system was selected to support the Department of Defense initiative to reduce the total number of accounting systems. Additionally, the Department of the Air Force has selected NIFMS as their accounting system for the Air Logistic Centers. The Defense Finance and Accounting Service (DFAS) will change the name from NIFMS upon transfer of ownership to DFAS from the Navy. The new system name will be the Defense Industrial Financial Management System (DIFMS).

The current version of DIFMS is a ten year old DMS-1100 hierarchical data base management application hosted on UNISYS mainframe computers at the Defense Megacenters. The reengineering of DIFMS to a relational database technology, using modern programming language in a client-server architecture, will reduce software coding by 30 percent, which will simplify future system changes. This will reduce maintenance costs, improve system flexibility, improve data accessibility, enhance ad hoc reporting capability, increase system performance, consolidate systems, add increased functionality/capabilities, and improve overall reliability. Additionally, the reengineered DIFMS will maximize user-friendliness, as well as functionality/capabilities across multi-vendor platforms.

DFAS, Air Force, and Navy have agreed to share the cost of reengineering DIFMS equally. The NAVAIR Industrial Material Management System (NIMMS) and the DIFMS Time and Attendance module will also be reengineered due to the integration of both of these modules within DIFMS. This request contains only the Navy's portion of the DIFMS, NIMMS, and DIFMS T&A reengineering efforts.

DEPARTMENT OF THE NAVY - DEFENSE BUSINESS OPERATIONS FUND
RESEARCH & DEVELOPMENT- NAVAL AIR WARFARE CENTER
CAPITAL BUDGET EXECUTION
(DOLLARS IN MILLIONS)
FY 1998

ITEM LINE #	ITEM DESCRIPTION	Original Request	Change	Revised Request	Explanation/Reason for Change
	1a. EQUIPMENT, OTHER THAN ADPE & TELECOM (>$500K)				
	Replacement				
4 W D 3 EL 0007 P	MISSION PLANNING/DIGITAL IMAGING W/S	1.000	0.000	1.000	
4 W D 7 EL 0502 R	INSTRUMENTATION UPGRADE (WSL)	0.590	0.200	0.790	INCREASE. CHANGE IN SCOPE OF REQUIREMENTS FOR SYSTEM DEFINITIONS. REPROGRAMMED FROM UPGRADE MICROCIRCUIT MACHINES.
4 W D 8 EL 6027 R	IMAGING SEEKER SIMULATION SYSTEM	1.000	0.000	1.000	
4 A B 8 EL 6608 R	CNC MACHINING CENTER	0.755	0.000	0.755	
8 W E EL 8001 R	ELECTRONIC SECURITY SYSTEM	0.710	(0.710)	0.000	DEFERRED TO OUTYEARS. DELTA TRANSFERRED TO OTHER PROJECTS.
5 W D EL 7000 R	UPGRADE MICROCIRCUIT MACHINES	0.575	(0.575)	0.000	CANCELLED. MISSION REQUIREMENTS CHANGED. REPROGRAMMED TO INSTR. UPGRADE WSL, GPS SIMULATOR UPGRADES, & INSTALL 8" WATER MAIN TO WSL (MINCON CATEGORY)
4 W D 3 EL 0010 P	CONCURRENT ENGINEERING WORKGROUP	0.500	0.000	0.500	
4 A A EL 4410 P	UNMANNED AIR VEHICLE ALTITUDE FACILITY UPGRADE	0.600	(0.600)	0.000	DEFERRING TO FY99. THIS EQUIPMENT IS ASSOCIATED WITH THE PROPULSION SYSTEMS ENGINEERING FACILITY; WHICH WILL NOT BE READY FOR OCCUPANCY UNTIL 1999.
4 A A 8 EL 4611 P	DYNAMIC CREW SYSTEM INTEGRATION EVAL. FACILITY	0.726	0.000	0.726	
4 A A 8 EL 4460 P	HELICOPTER DRIVE TRAIN FACILITY	0.950	0.000	0.950	
4 A A 8 EL 4551 R	SYNTHETIC APERTURE RADAR MOTION COMPENSATION & REG. SY	0.775	0.000	0.775	
4 A A 8 EL 4440 R	500 HP DRIVE STAND	0.533	0.000	0.533	
	SUBTOTAL EQUIPMENT, OTHER THAN ADPE & TELECOM (>$500K)	8.714	(1.685)	7.029	
N N ES 0000	**1b. EQUIPMENT, OTHER THAN ADPE & TELECOM (<$500K)**	8.423	(1.192)	7.231	
	2. GRAND TOTAL EQUIPMENT, OTHER THAN ADPE & TELECOM	17.137	(2.877)	14.260	
N N M 0000	**3. MINOR CONSTRUCTION**	0.835	0.820	1.655	
	GRAND TOTAL NON-ADP CAPITAL PURCHASES PROGRAM	17.972	(2.057)	15.915	

DEPARTMENT OF THE NAVY - DEFENSE BUSINESS OPERATIONS FUND
RESEARCH & DEVELOPMENT- NAVAL AIR WARFARE CENTER
CAPITAL BUDGET EXECUTION
(DOLLARS IN MILLIONS)
FY 1998

ITEM LINE #		ITEM DESCRIPTION	Original Request	Change	Revised Request	Explanation/Reason for Change
		1a. ADP & TELECOMMUNICATIONS EQUIPMENT (>$500K)				
		Computer Hardware (Production)				
4 W D 4 KL 0401	R	COMPETITIVE ENGINEERING ENVIRONMENT	1.250	0.000	1.250	
8 W D 4 KL 517	R	GEOGRAPHIC INFORMATION SYSTEM (GIS)	0.400	(0.400)	0.000	DEFERRED TO OUTYEARS. TRANSFERRED TO OTHER PROJECTS.
4 W D 7 KL 6152	R	SIGNAL PROCESSING SYSTEM	2.005	0.000	2.005	
4 W D 7 KL 6014	R	SURVIVABILITY DIVISION COMPUTER SYSTEM	0.352	0.000	0.352	
4 W D 7 KL 6171	R	RAPID PROTOTYPING ENV FOR REAL/TIME SYS	0.865	0.000	0.865	
7 A A 8 KL 7233	R	DMS TECHNOLOGY INSERTION	3.083	0.000	3.083	
4 A A 8 KL 4300	P	COMPUTER FOR COMPUTATIONAL ANALYSIS	0.650	0.000	0.650	
7 W D 3 TL 0084	R	COMMUNICATION SYSTEM UPGRADE	2.900	(1.450)	1.450	DEFERRED TO OUTYEARS. TRANSFERRED TO OTHER PROJECTS.
7 A A 7 TL 0723	R	FIBER OPTIC TRANSMISSION EQUIPMENT	1.750	0.000	1.750	
7 W D 8 TL 8006	R	FIBER OPTIC BRANCHING	1.150	(0.575)	0.575	DEFERRED TO OUTYEARS. TRANSFERRED TO OTHER PROJECTS.
8 A A 8 TL 81D0	R	PREMISES DISTRIBUTION	0.750	0.000	0.750	
4 A A 8 KL 4133	R	ASQ-212/222 LABORATORY COMPUTER	0.000	0.750	0.750	MOVED FORWARD FROM FY99. THIS EQUIPMENT IS NECESSARY TO MAINTAIN OUR FACILITIES AND MEET CHANGING REQUIREMENTS ALONG WITH SUPPORTING ASUW IMPROVEMENT PROGRAM (AIP) ALONG WITH OTHER PROGRAMS.
7 A A 8 TL 7230	R	FIBER OPTIC/PHONE SUB DISTRIBUTION	0.000	2.119	2.119	THIS IS A MULTI-YEAR PROJECT TO PROVIDE THE HARDWARE, SOFTWARE, DESIGN AND INSTALLATION FOR AN INTEGRATED FIBER OPTIC SYSTEM THROUGHOUT PAX RIVER. WITH THE CURRENT DATA, VIDEO, AND VOICE CABLE PLANTS AT THE END OF THEIR LIFE CYCLE AND NO ROOM FOR EXPANSION, IT IS ESSENTIAL TO REPLACE THOSE EXISTING PLANTS WITH AN INTEGRATED, STATE OF THE ART, FIBER OPTIC DATA AND VOICE SYSTEM.

DEPARTMENT OF THE NAVY - DEFENSE BUSINESS OPERATIONS FUND
RESEARCH & DEVELOPMENT- NAVAL AIR WARFARE CENTER
CAPITAL BUDGET EXECUTION
(DOLLARS IN MILLIONS)
FY 1998

ITEM LINE #	ITEM DESCRIPTION	Original Request	Change	Revised Request	Explanation/Reason for Change
7 A A 8 KL 7000 R	STANDARD PROCUREMENT SYSTEM (SPS)	0.000	0.679	0.679	SPS IS A STANDARD ACQUISITION AUTOMATED SYSTEM MANDATED BY OUSD MEMO OF 12 JULY 1996. $679k WAS TRANSFERRED FROM OTHER CATEGORIES.
	SUBTOTAL ADPE & TELECOMMUNICATIONS (>$500K)	15.155	1.123	16.278	

DEPARTMENT OF THE NAVY - DEFENSE BUSINESS OPERATIONS FUND
RESEARCH & DEVELOPMENT- NAVAL AIR WARFARE CENTER
CAPITAL BUDGET EXECUTION
(DOLLARS IN MILLIONS)
FY 1998

ITEM LINE #	ITEM DESCRIPTION	Original Request	Change	Revised Request	Explanation/Reason for Change
N N ES 0000	**1b. ADPE & TELECOMMUNICATIONS (<$500K)**	4.911	(0.705)	4.206	
	2. GRAND TOTAL ADPE & TELECOMMUNICATIONS	20.066	0.418	20.484	
N N 8 DL 0000	DIFMS/NIMMS OSE REEINGINEERING	0.150	2.408	2.558	NIFMS INCREASE WILL FULLY FUND IMPLEMENTATION OF THIS STANDARD FINANCIAL SYSTEM IN ACCORDANCE WITH RECENT AGREEMENT BETWEEN DFAS AND NAVAIR. INCREASE FOR RECENT NAVY DECISION TO MOVE TO OPEN SYSTEM ENVIRONMENT (OSE).
	3a. SUBTOTAL SOFTWARE DEVELOPMENT (>$500K)	0.150	2.408	2.558	
N N DS 0000	**3b. SOFTWARE DEVELOPMENT (<$500K)**	0.150	0.012	0.162	
	3. GRAND TOTAL SOFTWARE DEVELOPMENT	0.300	2.420	2.720	
	GRAND TOTAL ADP CAPITAL PURCHASES PROGRAM	20.366	2.838	23.204	
	GRAND TOTAL CAPITAL PURCHASES PROGRAM	38.338	0.781	39.119	

DEPARTMENT OF THE NAVY - DEFENSE BUSINESS OPERATIONS FUND
RESEARCH & DEVELOPMENT - NAVAL AIR WARFARE CENTER
CAPITAL BUDGET EXECUTION
(DOLLARS IN MILLIONS)
FY 1999

ITEM LINE #	ITEM DESCRIPTION	Original Request	Change	Revised Request	Explanation/Reason for Change
	1a. EQUIPMENT, OTHER THAN ADPE & TELECOM (>$500K)				
	Replacement				
4 W D 3 EL 0007 P	MISSION PLANNING/DIGITAL IMAGING W/S	1.000	0.000	1.000	
8 W E 8 EL 8001 R	ELECTRONIC SECURITY SYSTEM	1.253	(1.253)	0.000	DEFERRED TO OUTYEARS. DELTA TRANSFERRED TO OTHER PROJECTS.
4 A B 9 EL 4812 R	CATAPULT HYDRAULIC SYSTEM FLEET STANDARDIZATION	1.900	0.000	1.900	
4 A A 9 EL 4440 R	ELECTRICAL POWER SYSTEM/ENV. TEST REPLACEMENT	1.100	0.000	1.100	
4 W D 9 EL 8002 P	SURFACE ANALYSIS INITIATIVE	0.885	0.065	0.950	INCREASE. CHANGE IN SCOPE OF REQUIREMENTS FOR SYSTEM DEFINITIONS. REPROGRAMMED FROM SLS RAPID PROTOTYPE.
4 A A 9 EL 4450 R	F & L LABORATORY UPGRADE	0.540	0.000	0.540	
4 A A 9 EL 4623 R	RECONFIGURABLE COCKPIT UPGRADE	0.525	(0.525)	0.000	
4 W D 3 EL 0010 P	CONCURRENT ENGINEERING WORKGROUP	0.500	(0.500)	0.000	DEFERRED TO OUTYEARS. DELTA TRANSFERRED TO OTHER PROJECTS.
4 A A 8 EL 4611 P	DYNAMIC CREW SYSTEM INTEGRATION EVAL. FACILITY	0.560	0.000	0.560	EQUIPMENT IS BEING DEFERRED TO FY 2000. DELTA TRANSFERRED TO OTHER PROJECTS.
4 A A 9 EL 4322 N	SIDE BY SIDE MULTIPLE RECONFIGURABLE COCKPIT	0.995	0.000	0.995	
4 A A 9 EL 4410 R	UNMANNED AIR VEHICLE ALTITUDE FACILITY UPGRADE	0.000	0.600	0.600	
4 A A 9 EL 4500 R	AVIONICS ANALYSIS SYSTEM	0.000	0.516	0.516	REPLACEMENT OF CURRENT MANUAL OPERATIONS PERFORMED TO PROVIDE AN AUTOMATED PROCESS ALLOWING ACCURATE DATA ANALYSIS, IDENTIFICATION OF SYSTEM PROBLEMS AND IDENTIFY PERFORMANCE PROBLEMS, AND VALIDATE EXPECTED SYSTEM PERFORMANCE.
	SUBTOTAL EQUIPMENT, OTHER THAN ADPE & TELECOM (>$500K)	9.258	(1.097)	8.161	
N N ES 0000	1b. EQUIPMENT, OTHER THAN ADPE & TELECOM (<$500K)	5.051	1.191	6.242	
	2. GRAND TOTAL EQUIPMENT, OTHER THAN ADPE & TELECOM	14.309	0.094	14.403	
N N MC 0000					
	3. MINOR CONSTRUCTION	1.430	(0.230)	1.200	
	GRAND TOTAL NON-ADP CAPITAL PURCHASES PROGRAM	15.739	(0.136)	15.603	

DEPARTMENT OF THE NAVY - DEFENSE BUSINESS OPERATIONS FUND
RESEARCH & DEVELOPMENT - NAVAL AIR WARFARE CENTER
CAPITAL BUDGET EXECUTION
(DOLLARS IN MILLIONS)
FY 1999

ITEM LINE #	ITEM DESCRIPTION	Original Request	Change	Revised Request	Explanation/Reason for Change
	1a. ADP & TELECOMMUNICATIONS EQUIPMENT (>$500K) Computer Hardware (Production)				
4 W C 4 KL 0401 R	COMPETITIVE ENGINEERING ENVIRONMENT	1.400	(0.700)	0.700	DEFERRED TO OUTYEARS. DELTA TRANSFERRED TO OTHER PROJECTS.
8 W C 4 KL 0517 R	GEOGRAPHIC INFORMATION SYSTEM	0.400	(0.400)	0.000	DEFERRED TO OUTYEARS. DELTA TRANSFERRED TO OTHER PROJECTS.
4 W C 7 KL 6152 R	SIGNAL PROCESSING SYSTEM	1.725	(0.725)	1.000	DEFERRED TO OUTYEARS. DELTA TRANSFERRED TO OTHER PROJECTS.
4 W C 7 KL 6171 R	ATR RAPID PROTOTYPING	0.800	0.000	0.800	
7 A A 8 KL 7233 R	DMS TECHNOLOGY INSERTION	3.149	0.000	3.149	
4 A A 9 KL 4133 R	ASQ 212/22 LABORATORY COMPUTER	0.750	(0.750)	0.000	MOVED FORWARD TO FY98. SEE FUND-9D FOR FY98.
8 A A 9 KL 8013 N	CAD II	0.500	0.000	0.500	
7 W C 3 TL 0084 R	COMMUNICATIONS SYSTEM UPGRADE	2.600	(1.300)	1.300	DEFERRED TO OUTYEARS. DELTA TRANSFERRED TO OTHER PROJECTS.
7 A A 7 TL 0723 R	FIBER OPTIC TRANSMISSION EQUIPMENT	1.250	0.000	1.250	
7 W D 8 TL 8006 R	FIBER OPTIC BRANCHING	1.000	(0.500)	0.500	DEFERRED TO OUTYEARS. DELTA TRANSFERRED TO OTHER PROJECTS.
8 A A 8 TL 81D0 R	PREMISES DISTRIBUTION	0.750	0.000	0.750	
7 A B 9 TL 7000 R	BASE TELEPHONE SWITCHING SYSTEM	2.575	0.000	2.575	
7 A A 8 TL 7230 R	FIBER OPTIC/PHONE SUB DISTRIBUTION	0.000	4.104	4.104	THIS IS A MULTI-YEAR PROJECT TO PROVIDE THE HARDWARE, SOFTWARE, DESIGN AND INSTALLATION FOR AN INTEGRATED FIBER OPTIC SYSTEM THROUGHOUT PAX RIVER. WITH THE CURRENT DATA, VIDEO, AND VOICE CABLE PLANTS AT THE END OF THEIR LIFE CYCLE AND NO ROOM FOR EXPANSION, IT IS ESSENTIAL TO REPLACE THOSE EXISTING PLANTS WITH AN INTEGRATED, STATE OF THE AR, FIBER OPTIC DATA AND VOICE SYSTEM.
	SUBTOTAL ADPE & TELECOMMUNICATIONS (>$500K)	16.899	(0.271)	16.628	
N N ES 0000	1b. ADPE & TELECOMMUNICATIONS (<$500K)	3.229	0.407	3.636	
	2. GRAND TOTAL ADPE & TELECOMMUNICATIONS	20.128	0.136	20.264	

DEPARTMENT OF THE NAVY - DEFENSE BUSINESS OPERATIONS FUND
RESEARCH & DEVELOPMENT - NAVAL AIR WARFARE CENTER
CAPITAL BUDGET EXECUTION
(DOLLARS IN MILLIONS)
FY 1999

ITEM LINE #	ITEM DESCRIPTION	Original Request	Change	Revised Request	Explanation/Reason for Change
N N 8 DL 0000	DIFMS/NIMMS OSE REEINGINEERING	0.000	0.687	0.687	NIFMS INCREASE WILL FULLY FUND IMPLEMENTATION OF THIS STANDARD FINANCIAL SYSTEM IN ACCORDANCE WITH RECENT AGREEMENT BETWEEN DFAS AND NAVAIR. INCREASE FOR RECENT NAVY DECISION TO MOVE TO OPEN SYSTEM ENVIRONMENT (OSE).
	3a. SUBTOTAL SOFTWARE DEVELOPMENT (>$500K)	0.000	0.687	0.687	
N N DS 0000	3b. SOFTWARE DEVELOPMENT (<$500K)	0.450	0.006	0.456	
	3. GRAND TOTAL SOFTWARE DEVELOPMENT	0.450	0.693	1.143	
	GRAND TOTAL ADP CAPITAL PURCHASES PROGRAM	20.578	0.829	21.407	
	GRAND TOTAL CAPITAL PURCHASES PROGRAM	36.317	0.693	37.010	

FY 1999 PRESIDENT'S BUDGET
NAVY WORKING CAPITAL FUND
RESEARCH AND DEVELOPMENT
NAVAL SURFACE WARFARE CENTER

ACTIVITY GROUP FUNCTIONS

The Naval Surface Warfare Center was established on 2 January 1992 with the following mission: "To operate the Navy's full spectrum research, development, test and evaluation, engineering and fleet support center for ship hull, mechanical, and electrical systems, surface combat systems, coastal warfare systems, and other offensive and defensive systems associated with surface warfare."

The Center is comprised of five operating divisions whose operations and locations are described briefly below.

CARDEROCK DIVISION. The mission of this division is to provide research, development, test and evaluation, fleet support and in service engineering for surface and undersea vehicle hull, mechanical and electrical (HM&E) systems and propulsors: provide logistics R&D and provide support to the maritime Administration and Maritime Industry. The division has major operating sites at Carderock, MD; Philadelphia, PA; and Annapolis, MD with smaller operating sites at Ft. Lauderdale, FL; Memphis, TN; Norfolk, VA; Bremerton, WA; and Bayview,ID. The operations at Annapolis are scheduled for termination in FY 1999 in accordance with BRAC plans. Another site at White Oak, MD closed in FY 1997.

CRANE DIVISION. The mission of this division is to provide engineering and industrial support of weapons systems, subsystems, equipment and components. Primary product areas of expertise include electronic warfare, gun and gunfire control systems, microelectronics components, electronic module test and repair, microwave components, electromechanical power systems, acoustic sensors, small arms, conventional ammunition, radars, and pyrotechnics. The division has one primary operating site, Crane, IN. The Louisville site was privatized in August 1996.

DAHLGREN DIVISION. The mission of this division is to provide research, development, test and evaluation, engineering and fleet support for surface warfare systems, surface ship combat systems, ordnance, mines and mine counter measures, amphibious warfare systems, special warfare systems, strategic warfare systems, and diving. The division has three primary operating sites, Dahlgren, VA; Panama City, FL; and White Oak, MD. The

White Oak operation was terminated in FY 1997.

INDIAN HEAD DIVISION. The mission of this division is to provide technical capabilities in energetics for all warfare centers and to provide special weapons, explosive safety and ordnance environmental support to all warfare centers, the military departments and ordnance industry. The primary site of operations is Indian Head, MD, with smaller operations at Yorktown, VA; Mcalester, OK; and White Oak, MD. The White Oak operation was terminated in FY 1997 in accordance with the BRAC.

PORT HUENEME DIVISION. The mission of this division is to provide test and evaluation, in service engineering and integrated support for surface warfare systems, system interface, weapons systems and subsystems, unique equipment's, and related expendable ordnance of the surface fleet. The primary operating sites are Port Hueneme, CA; San Diego, CA; and Dam Neck, VA.

Effective FY 1998 the assimilation of the Naval Warfare Assessment Division (NWAD), formerly a component of Naval Ordnance Center (NOC) is reflected in NSWC's budget estimates.

A central objective in establishing the Center was to realign workload consistent with the Center's mission and product areas. It is significant, that for the first time, accountability for all naval surface warfare scientific, engineering, logistics, and fleet support is vested in a single Commander and a single Technical Director. Unified command of the organization is paying steady dividends through functional integration of the five divisions, and coordinated application of assets and resources across the entire lifecycle off surface warfare systems, from research and development through in-service support to eventual system retirement.

ANALYSIS OF BUDGET STATEMENTS

The NSWC Exhibits show that orders and revenue are declining commensurate with decreases in future defense budgets. In addition, the business statistics reflect the Center's commitment to balancing its workforce to match customer orders and to improving the overall value of services provided.

REVENUE AND EXPENSES (NOR)

	FY 1997	FY 1998	FY 1999
Revenue	2,355.7	2,478.0	2,360.6
Cost of Goods/Svcs	2,390.5	2,426.8	2,358.9
NOR	-34.8	51.2	1.7
- NOC AOR Transfer		-25.0	
AOR	-27.9	- 1.7	0

COSTS OF OPERATIONS

OVERHEAD

Overhead costs continue a steady decline commensurate with direct workload. In current year dollars, the NSWC plans to achieve a 16 percent decrease in overhead costs between FY 1994 and FY 1999. In FY 1994 constant dollars the decrease is 27 percent. To sustain an efficient operation, the investment in people, facilities and equipment mentioned previously is paramount. The investment however, does result in an increase in the overhead components of the stabilized rate.

PRODUCTIVE RATIO

The productive ratio through the budget period is relatively stable from year to year.

Productive Ratio	FY 1997	FY 1998	FY 1999
	71.3%	70.9%	71.6%

CAPITAL PURCHASES PROGRAM (CPP)

The NSWC CPP program procures mission essential equipment to support a wide customer base. The capital projects are used to maintain existing capability and equipment replacement--not for new or expanded capabilities. This submission includes the NWAD transfer, the cash model increase, as well as emergent infrastructure requirements in FY 1999.

	FY 1997	FY 1998	FY 1999
Non ADPE	11.0	9.5	13.6
ADPE	12.1	17.2	13.1
Software	2.7	7.2	3.2
Minor Construction	5.3	3.3	3.1
Total	31.1	37.2	33.0

BRAC

BRAC actions programmed during the budget period are as follows:

White Oak. Mission ceased 31 January 1997 with operational closure effective 31 July 1997. The Wind Tunnel operation and facility transfer to the Air Force is scheduled for FY 1998.

Louisville. Industrial workload was privatized in place on 17 August 1996. Operational closure was scheduled for 30 September 1997. The in-service engineering detachment for selected gun and weapon systems transferred to Port Hueneme Division on 28 September 1997.

Annapolis. Mission cease date is February 1999. The technical work transfers to Carderock and Philadelphia.

WORKLOAD / MANPOWER TRENDS

BUSINESS BASE

	FY 1997	FY 1998	FY 1999
New Orders ($M)	2,336	2,167	2,162
#Mo of Carryover	2.5	1.5	1.2
Direct Labor Hours (000)	20,850	21,547	21,250

FY 1997 receipts were higher than FY 1996 orders and are expected to remain strong through FY 1999. Changes in new orders and direct labor hours between FY 1998 and FY 1999 are minimal. Included in both FY 1998 and FY 1999 data are orders and direct labor hours associated with the transfer of NWAD from Naval Ordnance Center (NOC).

MANPOWER

Civilian Manpower levels continue to drop in response to workload reductions, consolidations and closures. Manpower reductions since the Center was established in FY 1992 total 25 percent through the end of FY 1997 and are projected to be 23 percent by the end of FY 1999. Removing NWAD transfer would show a projection of 29 percent by the end of FY 1999.

FTE	FY 1997	FY 1998	FY 1999
FY 99 Pres Bud	16,040	16,812	16,496

End Strength	FY 1997	FY 1998	FY 1999
FY 99 Pres Bud	15,736	16,755	16,458

The increase between FY 1997 and FY 1998 FTE/end strength reflects the transfer of NWAD into this activity group. The decline between FY 1998 and FY 1999 is commensurate with projected changes in workload.

To manage manpower in accordance with projected workload at each division, SIP/VERA/RIF separations continue to be budgeted through FY 1999. The SIP/VERA/RIF actions are planned to support reductions of overhead positions as well as judicious management of skills mis-match in the workforce.

SIP/VERA/RIF	FY 1997	FY 1998	FY 1999
FY 99 Pres Bud	452	290	227

Military	FY 1997	FY 1998	FY 1999
End Strength	329	313	316
Workyears	302	313	316

UNIT COSTS

The unit cost data demonstrates the Center's overall commitment to improving the value of the services we provide to our customers. The change

in FY 1999 reflects increased labor cost due to the full implementation of Demo pricing in that year.

Unit Cost	FY 1997	FY 1998	FY 1999
	62.28	65.40	67.69

CUSTOMER PRICES

	FY 1997	FY 1998	FY 1999
Stabilized Rates	60.69	68.10	69.25
Stabilized Change(%)	-7.9	+12.2	+1.7
Composite Change (%)	-2.5	+ 8.1	+1.6

The primary factor influencing the rate increase between FY 1998 and FY 1999 is price growth. This increase is offset by overhead efficiencies and downsizing, streamlining and rightsourcing initiatives to maintain a stabilized rate that is competitive with industry.

PERFORMANCE INDICATORS

The primary performance indicator is Unit Cost discussed in the Unit Cost Rate paragraph above. Unit Cost (sum of direct labor and overhead cost divided by the number of direct labor hours) represents the cost of delivering goods and services.

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
NSWC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
.Gross Sales			
Operations	2,324.5	2,442.4	2,322.6
Surcharges	.1	.0	.0
Depreciation excluding Major Constructio	31.2	35.6	38.1
Other Income			
Total Income	2,355.7	2,478.0	2,360.6
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	16.1	15.5	15.9
Civilian Personnel	1,052.8	1,151.6	1,159.3
Travel and Transportation of Personnel	73.3	73.2	73.2
Material & Supplies (Internal Operations	246.1	203.3	179.3
Equipment	85.4	88.9	80.7
Other Purchases from NWCF	71.7	89.7	86.5
Transportation of Things	6.7	4.9	4.7
Depreciation - Capital	31.2	35.6	38.1
Printing and Reproduction	7.8	9.0	8.8
Advisory and Assistance Services	2.3	2.0	1.9
Rent, Communication & Utilities	44.8	42.2	42.1
Other Purchased Sevices	788.3	712.2	669.1
Total Expenses	2,426.5	2,428.0	2,359.4
Work in Process Adjustment	-32.8	.0	.0
Comp Work for Activity Reten Adjustment	-3.2	-1.3	-.5
Cost of Goods Sold	2,390.5	2,426.8	2,358.9
Operating Result	-34.8	51.2	1.7
Less Surcharges	-.1	.0	.0
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	.0	.0	.0
Net Operating Result	-34.8	51.2	1.7
Other Changes Affecting AOR	.0	-25.0	.0
Accumulated Operating Result	-27.9	-1.7	.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NSWC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	2,335.9	2,166.6	2,162.4
a. Orders from DoD Components	2,045.8	1,875.4	1,832.9
Department of the Navy	1,762.8	1,609.5	1,591.5
O & M, Navy	459.6	556.1	606.3
O & M, Marine Corps	9.4	11.2	11.4
O & M, Navy Reserve	6.3	5.8	1.7
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	89.3	18.0	12.2
Weapons Procurement, Navy	35.6	63.9	49.8
Ammunition Procurement, Navy/MC	74.8	48.3	54.6
Shipbuilding & Conversion, Navy	215.0	212.0	171.4
Other Procurement, Navy	209.5	141.8	112.6
Procurement, Marine Corps	12.6	11.5	5.2
Family Housing, Navy/MC	8.8	3.3	9.0
Research, Dev., Test, & Eval., Navy	632.6	528.0	547.2
Military Construction, Navy	.0	.0	.0
Other Navy Appropriations	9.3	9.5	10.1
Other Marine Corps Appropriations	.0	.1	.1
Department of the Army	40.2	33.8	32.7
Army Operation & Maintenence	3.0	1.9	2.9
Army Res, Dev, Test, Eval	5.3	7.1	4.3
Army Procurement	11.8	10.0	10.0
Army Other	20.1	14.7	15.6
Department of the Air Force	8.1	18.0	26.4
Air Force Operation & Maintenence	1.9	1.6	1.6
Air Force Res, Dev, Test, Eval	5.0	3.4	5.5
Air Force Procurement	1.3	7.3	7.8
Air Force Other	-.1	5.7	11.5
DOD Appropriation Accounts	234.7	214.0	182.3
Base Closure & Realignment	48.6	29.6	1.1
Operation & Maintence Accounts	13.7	16.9	14.8
Res, Dev, Test & Eval Accounts	127.5	114.7	118.8
Procurement Accounts	23.9	29.7	24.5
DOD Other	20.9	23.2	23.1
b. Orders from NWCF Business Area	208.7	171.6	205.4
c. Total DoD	2,254.5	2,046.9	2,038.3
d. Other Orders	81.4	119.6	124.1
Other Federal Agencies	12.5	11.1	14.6
Foreign Military Sales	52.0	91.9	87.4
Non Federal Agencies	16.9	16.6	22.1

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NSWC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	1,206.3	1,186.4	875.0
3. Total Gross Orders	3,542.2	3,353.0	3,037.5
4. Funded Carry-Over **	1,186.4	875.0	676.8
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	2,355.7	2,478.0	2,360.6

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

CHANGES IN COST OF OPERATIONS
COMPONENT: DEPARTMENT OF THE NAVY
ACTIVITY GROUP: RESEARCH & DEVELOPMENT
SUB-ACTIVITY GROUP: NAVAL SURFACE WARFARE CENTER
FY 1999 PRESIDENT'S BUDGET
(Dollars in Millions)

	Expenses
1. FY97 Actual	**2,426.5**
2. FY98 Estimate in 98 President's Budget	**2,069.1**
3. Est Impact in FY98 of Act FY97 Exp	0.0
4. Pricing Adjustments	
a. FY98 pay raise	
1. civilian personnel	0.0
2. military personnel	0.0
b. Annualization of 97 pay raise	
1. civilian personnel	0.0
2. military personnel	0.0
c. Stock fund - fuel	0.0
d. Stock fund - non-fuel	0.0
e. DBOF price changes	0.0
f. General purchase inflation	-7.5
5. Productivity Initiatives	
a. Consolidation/Efficiencies	-0.4
b. Savings from CPP	0.0
c. Streamlining Small Purchase Function	-0.4
6. Program Changes	
a. Anticipated Funded Workload	189.7
b. BRAC	0.1
c. PEO TAD TECH REPS TO PHD	0.4
d. Family Housing	0.7
e. NWAD Transfer	155.3
7. Other Changes	
a. Labor Repricing	19.8
b. SIP/VERA/RIF	-1.7
c. Retirement Fund Offset	0.4
d. PCS	6.3
e. Health Continuation	-0.6
f. Severence	0.9

CHANGES IN COST OF OPERATIONS
COMPONENT: DEPARTMENT OF THE NAVY
ACTIVITY GROUP: RESEARCH & DEVELOPMENT
SUB-ACTIVITY GROUP: NAVAL SURFACE WARFARE CENTER
FY 1999 PRESIDENT'S BUDGET
(Dollars in Millions)

	Expenses
g. Awards	-1.6
h. Military	0.0
i. Accounting Adjustments	1.0
j. MRP	-1.3
k. Depreciation	0.0
l. Other	-2.2
8. FY98 Current Estimate	**2,428.0**
9. Pricing Adjustments	
a. FY99 pay raise	
1. civilian personnel	26.7
2. military personnel	0.3
b. Annualization of 98 pay raise	
1. civilian personnel	7.9
2. military personnel	0.1
c. Stock fund - fuel	-0.5
d. Stock fund - non-fuel	-2.7
e. DBOF price changes	1.8
f. General purchase inflation	15.4
10. Productivity Initiatives	
a. Consolidation/Efficiencies	-5.7
b. Savings from CPP	0.0
11. Program Changes	
a. Anticipated Funded Workload	-82.6
b. BRAC	-28.3
c. Family Housing	0.0
d. NWAD Workload	-11.9
12. Other Changes	
a. SIP/VERA/RIF	-2.5
b. Retirement Fund Offset	-1.0
c. PCS	-5.6
d. Health Continuation	-0.1
e. Awards	-0.2
f. MRP	4.7

CHANGES IN COST OF OPERATIONS
COMPONENT: DEPARTMENT OF THE NAVY
ACTIVITY GROUP: RESEARCH & DEVELOPMENT
SUB-ACTIVITY GROUP: NAVAL SURFACE WARFARE CENTER
FY 1999 PRESIDENT'S BUDGET
(Dollars in Millions)

	Expenses
g. Depreciation	2.5
h. Other Contracts	13.1
13. FY99 Current Estimate	**2,359.4**

Business Area: Capital Budget Summary
Component: NAVAL WARFARE CENTER
Business Area: NSWC/February 1998

($ in Millions)

Line Num	Description	FY 1997		FY 1998		FY 1999		FY 2000	
		Qty	Total Cost	Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
	Non ADP								
1	HIGH-RISE PALLET STORAGE RACK SYSTEM FOR BLDG 40 (Replacement)			1	1.058				
2	ELECTRONIC ACCESS CONTROL SYSTEM (Replacement)	1	.200	1	.350	1	.150		
3	BATTERY TEST SYSTEM (Replacement)	1	.391			2	.300		
4	Controllable Pitch Prop System (New Mission)	1	.676						
5	BLDG 856 IDS AND LOW TEMP CHILLER (Environmental)	1	.620						
6	HYPERSPECTRAL IMAGER (Replacement)					1	.600		
7	RANGE SUPPORT EQUIPMENT (Replacement)			1	.250	1	.290		
8	MOTOR DISSECTION (New Mission)	1	.540						
9	DEMINERALIZER SYSTEM (Environmental)			1	.534				
10	PULSE POWER (Productivity)			1	.175	1	.335		
11	10000 HP High Speed Water Brake (New Mission)					1	.500		
12	Miscellaneous (Non ADP < $500K)		8.592		7.132		11.459		
	Non ADP Total:		**11.019**		**9.499**		**13.634**		

Business Area: Capital Budget Summary
Component: NAVAL WARFARE CENTER
Business Area: NSWC/February 1998

($ in Millions)

Line Num	Description	FY 1997		FY 1998		FY 1999		FY 2000	
		Qty	Total Cost	Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
	ADP								
13	CDNET Modernization (Hardware)			1	2.089	1	1.923		
14	THEATER WARFARE SYSTEMS (Hardware)	1	.464	1	1.270	1	.900		
15	CSACT (COMBAT SYSTEMS ADV CONCEPTS AND TECH) LAB (Hardware)	1	.831	1	.540	1	.600		
16	NETWORKS (Telecommunications Equip.)	1	.670	1	.574	1	.598		
17	DIVISION NETWORK (Hardware)			1	1.750				
18	INTEGRATED SOFTWARE ENGINEERING ENVIRON (Hardware)	1	.356	1	.385	1	.385		
19	NETWORK CONNECTIVITY (Hardware)			1	.600	1	.520		
20	SATELLITE COMMUNICATION EQUIPMENT (Hardware)					1	1.050		
21	CLASSIFIED NETWORKS (Telecommunications Equip.)			1	.481	1	.568		
22	ADP TELECOMMUNICATIONS CABLES (Hardware)			1	1.000				
23	WARFARE EVALUATION SYSTEM (Hardware)			1	.950				
24	SERVER ARCHITECTURE (Hardware)	1	.171	1	.375	1	.325		
25	PAPERLESS ENVIRONMENT (Hardware)			1	.540	1	.300		

Business Area: Capital Budget Summary
Component: NAVAL WARFARE CENTER
Business Area: NSWC/February 1998

($ in Millions)

Line Num	Description	FY 1997 Qty	FY 1997 Total Cost	FY 1998 Qty	FY 1998 Total Cost	FY 1999 Qty	FY 1999 Total Cost	FY 2000 Qty	FY 2000 Total Cost
26	COMPUTER SECURITY/INTRUSION PREVENTION (Hardware)	1	.422	1	.200	1	.200		
27	ENGINEERING ENVIRONMENT (Hardware)	1	.187	1	.275	1	.340		
28	NIMIP EQUIPMENT (Hardware)	1	.726						
29	SCIENTIFIC VISUALIZATION AND VR LAB EQUIPMENT (Hardware)	1	.705						
30	STRIKE WARFARE PROTOTYPING LABORATORY (Hardware)			1	.400	1	.300		
31	LAN FIBER OPTIC SYSTEM (Hardware)			1	.300	1	.400		
32	TRUSTED LAN HUB (Other Support Equip.)	1	.295	1	.200	1	.200		
33	DTNET Extensions (Telecommunications Equip.)	1	.640						
34	SOFTWARE ENGINEERING CAPABILITY IMPROVEMENT INITIA (Hardware)	1	.374	1	.250				
35	ATM Switching Network (Hardware)	1	.556						
36	EXPEDITIONARY WARFARE SHIPBOARD NETWORK (Hardware)			1	.200	1	.322		
37	Asynchronous Transfer Mode High Speed Data Comm					1	.500		
38	Miscellaneous (ADP < $500K)		5.690		4.874		3.704		
	ADP Total:		**12.087**		**17.253**		**13.135**		

Business Area: Capital Budget Summary
Component: NAVAL WARFARE CENTER
Business Area: NSWC/February 1998

($ in Millions)

Line Num	Description	FY 1997		FY 1998		FY 1999		FY 2000	
		Qty	Total Cost	Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
	Software								
39	NIMIP SOFTWARE	1	2.498	1	6.371	1	3.143		
40	Miscellaneous (Software < $500K)		.223		.826		.012		
	Software Total:		**2.721**		**7.197**		**3.155**		
	Minor Construction								
41	HEAVY EQUIPMENT MAINTENANCE SHOP					1	.950		
42	Miscellaneous (Minor Construction < $500K)		5.315		3.290		2.139		
	Minor Construction Total:		**5.315**		**3.290**		**3.089**		
	Grand Total:		**31.142**		**37.239**		**33.013**		

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 1/HIGH-RISE PALLET STORAGE RACK SYSTEM FOR BLDG 40				D. Site Identification NSWC Crane, IN				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP				1	1058	1058						

Narrative Justification:

Description

Purchase necessary service, labor and material to furnish, install, test, illuminate, protect and make operational a high-rise pallet storage system in Building 40. The system will consist of the equipment required to store and retrieve assets, including a pallet rack system with related equipment to provide lighting, fire protection and loading/unloading capability.

Justification

Existing warehouses have been maximized using conventional storage configurations. NAVSEA material continues to be returned from ships and closed-down production plants. The influx of this material requires smarter use of cubic space in existing buildings. In addition, projects, such as the Van Project for AN/ALQ-99 are using previously designated warehouse space in Building 40 for industrial repairs. Building 40 has not only heavy truck and rail access, but installed overhead cranes as well. The estimated additional storage space needed is 200,000 square feet (SF). The addition of a high-rise pallet storage system would increase our storage capability by enabling us to utilize the cubic space. Gross square feet would be increased from 45,000 SF to 270,000 SF, increasing gross storage by 225,000 SF. This investment would increase our corporate storage capability in Building 40 by 500% (375,100 cubic feet), while accommodating the increasing industrial footprint needs.

Impact

Disapproval of this project would result in an inability for the Division's Supply Directorate to properly store increased quantities of NAVSEA material returned from ships and closed-down facilities. Incidental storage for material awaiting repair induction for current projects is now limited, and a loss of funded projects could occur if proper stewardship of items in the repair pipeline is not maintained.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 2/ELECTRONIC ACCESS CONTROL SYSTEM (Replacement)				D. Site Identification NSWC Port Hueneme, CA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	1	200	200	1	350	350	1	150	150			

Narrative Justification:

Description

The project consists of a microprocessor driven alarm moniter/command subsystem including individual coded access cards, card readers, door strikes, and contact switches. This project will be completed in phases to secure more critical areas first.

Justification

The electronic Access Control System (ACS) will secure facilities in compliance with OPNAVINST 5530.14B amd 5510.1H by limiting access, monitoring users, and alerting of unauthorized access. It will provide physical security, prevent access to information, protect personnel, and reduce the loss of government property. Execution of thi project is accelerated to address critical security deficiencies cited in Port Hueneme Division's May 1996 Inspector General inspection.

Impact

This system will reduce theft of computer equipment to a minimum and secure information and assets that are vulnerable to unauthorized access.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 3/BATTERY TEST SYSTEM (Replacement)				D. Site Identification NSWC Crane, IN				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP	1	391	391				2	150	300			

Narrative Justification:

Description

This system consists of the hardware and software to schedule, monitor and control 50 different battery tests. Many batteries are tested simultaneously and this system will provide the necessary test conditions and stimuli and will monitor 1000 channels of data at 15 second intervals. It will replace our current NiCad and NiH battery test systems.

Justification

The current NiCad and NiH battery test systems are nearly 15 years old. The hardware and operating software is no longer supported. The cost of obtaining replacement parts and funding a software maintenance support contract is not cost effective. The hardware is no longer manufactured and the only replacement parts available is from refurbished used equipment. Although the used equipment is thoroughly checked for problems, it is "used" and not as reliable. The current systems cannot be economically upgraded because the hardware design is no longer supported. The software is no longer supported and improvements cannot be made. Expansion of testing to new requirements cannot be accommodated with the current systems. The new system will reduce the overall costs of operating and maintaining our NiCad and NiH battery test capability and will provide necessary additional capability.

Impact

Without these new systems, maintenance costs will continue to escalate for our current test systems, which probably will soon be inoperable. Without new capability, we will not be able to conduct battery tests to new requirements. These systems are used to verify battery life for several DoD satellite systems and other classified programs.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 6/HYPERSPECTRAL IMAGER (Replacement)				D. Site Identification NSWC Crane, IN				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP							1	600	600			

Narrative Justification:

Description

The Hyperspectral Imager is a measuring device capable of simultaneously measuring spectral, spatial and temporal outputs of flare, missile, aircraft and ship signatures.

Justification

This system is designed to possess the necessary capability to measure the output of pyrotechnic devices in a way that will be consistent with the measurement techniques currently being projected for advanced missile seekers, including surface-to-air, air- to-air, air-to-surface and surface-to-surface. It will provide a single measurement instrument that can characterize flares spatially, spectrally and temporally. These are all techniques being used as flare countermeasures. This capability is not existent any place else in the world. The acquisition of this equipment both improves and maintains Navy weapons systems with respect to thermal signatures. There is the possibility that this device would be used in a teaming effort with the Naval Surface Warfare Center, Dahlgren, Carderock and Crane Divisions to measure missile infrared signatures for ship self-protection.

Impact

This capability would complement all existing infrared decoy measuring techniques currently implemented at other measuring facilities in the world. It would be a one-of-a-kind device, capable of simultaneously measuring all the features necessary to characterize decoy flares against any known or projected threat. It will replace a suite of four different instruments currently in use.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 7/RANGE SUPPORT EQUIPMENT (Replacement)				D. Site Identification NSWC Dahlgren, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP				1	250	250	1	290	290			

Narrative Justification:

Description

The replacement of Range Support Equipment at Dahlgren would enable various tests of weapons systems to be performed. Several pieces of equipment require replacement due to physical and technical obsolescence, including a stabilized pedestal and various camera/video-type systems.

Justification

The existing stabilized pedestal has frequently been used for both shipboard and land-based testing as a base for cameras, lasers, radars, etc. It will soon need significant repairs in order to remain useful. Even now, it is only marginally capable of handling the payloads of many current testing requirements. A high speed video system is needed to replace the existing film system. The video system is less labor-intensive to operate and will replace technically obsolete equipment used for on-site evaluation of weapons testing. An upgraded video range surveillance system is needed to replace old remote-controlled cameras. This system will identify obstructions on the range as real or clutter. Range tests support missile tracking, target tracking, gun mount motion tests, fuze tests, etc.

Impact

This equipment is needed to ensure safe, efficient operation of testing ranges at the Dahlgren site. The existing equipment is physically and technically obsolete and must be replaced. Tests will be delayed and/or incomplete because of equipment breakdown, and operational costs will rise due to increased maintenance and repair costs as shown by the economic analysis.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 9/DEMINERALIZER SYSTEM (Environmental)				D. Site Identification NSWC Indian Head, MD				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP				1	534	534						

Narrative Justification:

Description

Change the makeup water source to the Power Plant from potable water to river water for the production of steam. Provide chlorination equipment, sand filtration and activated carbon filtration to make river water suitable for demineralization.

Justification

This project will reduce energy and water consumption costs. Groundwater savings are estimated at 92 million gallons per year. The present demineralizer plant (circa 1954), which supplies makeup water for the boilers at the Goddard Power Plant, has decreased in throughput of the quality water required for the economical operation of the boilers. The present source of water is from wells on site. The Potomac River water normally contains lower dissolved minerals than the wells and will increase the demineralizer throughput and produce better quality makeup water. An A/E study was completed in 1996 to scope this project.

Impact

Continued water and energy consumption.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 10/PULSE POWER (Productivity)				D. Site Identification NSWC Dahlgren, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP				1	175	175	1	335	335			

Narrative Justification:

Description

Pulsed Power is the research and development of technologies associated with the generation, storage, control, and shaping of high-energy electrical, electromagnetic or optical pulses. These efforts support the development of high-power electrical systems, non-thermal discharges, lethal and non-lethal directed energy, electromagnetic effects, and electronic attack technologies. Investments in highly specialized lasers, microscopes, and deposition systems will provide improved in-house testing capabilities in this area.

Justification

These testing systems will provide the capabilities to perform required research in-house, which is more cost-effective than contracted testing over long periods of time. A tuneable laser system provides the same capabilities of a much more costly family of lasers to support optics and photonics research and development. A surface analysis system provides the capability to characterize high-voltage electrodes and will allow the correlation of surface features and electrode performance. A deposition and coating system will add to the present semiconductor fabrication capabilities needed to explore new materials and concepts, particularly in high voltage optically-controlled switches.

Impact

Experience has shown long delays and poor performance for one-of-a-kind items that are contracted to companies, universities or other government laboratories. Most importantly, work is delayed because of long turn-around times. This equipment is required to perform cost-effective development and testing.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 11/10000 HP High Speed Water Brake (New Mission)				D. Site Identification NSWC Eng. Sta. Philadelphia, PA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Non ADP							1	500	500			

Narrative Justification:

Description

This project is to procure a 10,000 Horsepower (HP), high speed waterbrake for the Naval Surface Warfare Center, Carderock Division, Philadelphia Site (SSES).

Justification

SSES is the Navy's principal agent for gas turbine engine testing and in-service engineering. The Navy is currently introducing several new gas turbine engine platforms into the fleet. A number of these platforms have engines exceeding 5,000 brake horsepower (BHP), rendering the current waterbrake, located in the Small Gas Turbine Engine Test Cell, inadequate. By adding a 10,000 HP, high speed waterbrake to the existing Small Gas Turbine Engine Test Cell, independent testing and evaluation is possible.

Impact

Independent evaluation will not be possible for high speed waterbrakes resulting in possible acceptance of substandard equipment from outside contractors.

Capital Purchases Justification (Dollars in Thousands)		A. Budget Submission FY 1999 PRESIDENT'S BUDGET		
B. Component/Business Area/Date NSWC/February 1998	C. Line# and Description 12/Miscellaneous (Non ADP < $500K; > $100K)	D. Site Identification NA		
	FY 1997	FY 1998	FY 1999	FY 2000
ELEMENTS OF COST	Total Cost	Total Cost	Total Cost	Total Cost
TOTAL COST	8592	7132	11459	0

Capital Purchases Justification (Dollars in Thousands)					A. Budget Submission FY 1999 PRESIDENT'S BUDGET							
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 13/CDNET Modernization (Hardware)				D. Site Identification NSWC Carderock Bethesda, MD				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				1	2089	2089	1	1923	1923			

Narrative Justification:

Description

The Carderock Division Network (CDNET) provides the Information Technology (IT) infrastructure for the connection of all information resources and data exchange within Carderock Division. It is a state-of-the-art, integrated data/audio/visual network that provides the division with seamless communications.

Justification

Carderock Diuvision's widely separated sites necessitate a Wide Area Network (WAN), capable of providing technical and business data as well as video teleconferencing, to support mission tasks. Carderock sites operate on seperate Local Area Networks (LAN). Additionally Carderock Division is required to connect and be compatable with the Defense Message System (DMS), the Naval Sea Systems Command (NAVSEA) WAN, NEWNET, and the emerging business support system under the Financial Information Management System (FIMS). CDNET will provide all Carderock sites connectivity and compatability.

Impact

Failure to fund the continuous improvement of CDNET will prevent the Division from maintaining the high speed, high bandwidth, IT infrastructure that it needs to meet the data and information processing, exchange, and interconnectivity requirements imposed by its mission. It will also impact the Division's ability to interface with the Fleet IT infrastructure.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 14/THEATER WARFARE SYSTEMS (Hardware)				D. Site Identification NSWC Dahlgren, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP	1	464	464	1	1270	1270	1	900	900			

Narrative Justification:

Description

Theater Warfare Systems will be used to visually depict dynamic engineering concepts and will tie into Division thrusts in warfare analysis, total ship, and combat systems development. It will enable decision-makers to explore various system/procurement options to evaluate the relative benefits and affordability of each in a unit/force/theater context.

Justification

Theater Warfare Systems will consist of display engines networked by video switching to panel display arrays. It will include high-power computing engines with sophisticated graphical and animation capabilities as well as interactive decision-support hardware and software. This system will be networked to both local and remote nodes on a wide area network to enable participation in a variety of analytical and engineering scenarios for the development and evaluation of various weapons elements and systems. In a downsizing environment, affordability is a key component of smart procurement decisions. Acquisition decision-makers need the capability to explore procurement alternatives and quickly visualize respective decision impacts through real-time, interactive simulations of various weapons systems. Theater Warfare Systems provide these capabilities for components, ship/weapon systems, platforms, force, and theater options.

Impact

Theater Warfare Systems provide a cohesive environment to visualize and analyze the performance of systems and their cost effectiveness in a unit/force/theater context. It will support multiple users, especially those associated with warfare analysis and system engineering, new ship and system designs. Without this capability, much more costly and disjointed methods of evaluation must continue to be used, decision-making will be less comprehensive, and the full impact of decisions will not be known.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 15/CSACT (COMBAT SYSTEMS ADV CONCEPTS AND TECH) LAB (Hardware)				D. Site Identification NSWC Dahlgren, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP	1	831	831	1	540	540	1	600	600			

Narrative Justification:

Description

The Combat Systems Advanced Concepts and Technology (CSACT) Laboratory has consolidated independent thrusts to provide an integrated software development and evaluation environment. The CSACT Laboratory is comprised of two primary emphasis areas, the Combat Information Center (CIC) and the Computing Resource Center (CRC). This investment supports these efforts with the acquisition of high-performance graphics processors, high- performance displays, and TAC workstations.

Justification

The requirement for a high-resolution graphics capability is urgent due to advancements in new concepts, technologies, and configurations. This capability is required to host already developed CIC technology and to further develop additional concepts on information presentation and man-machine interaction. This equipment will be integrated into a network of workstations, high-performance graphic processors, and high-resolution and large-screen displays. The interconnection of these workstations and multiprocessors provides a network which enables the evaluation of new architecture concepts, algorithms, and implementation strategies.

Impact

The Naval Surface Warfare Center has the lead responsibility in guiding and developing the appropriate technologies required in the construction of all ship combat systems, including the Surface Combatant for the 21st Century (SC21). This equipment is needed to perform the critical analysis and prototyping required to demonstrate the feasibility of suitable advanced technologies.

Capital Purchases Justification (Dollars in Thousands)								A. Budget Submission FY 1999 PRESIDENT'S BUDGET				
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 16/NETWORKS (Telecommunications Equip.)				D. Site Identification NSWC Dahlgren, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP	1	670	670	1	574	574	1	598	598			

Narrative Justification:

Description

NSWCDD is continuing to upgrade its communications infrastructure. A multi-year effort to install a high speed media trunking system was completed at Dahlgren in FY93. These networks primarily serve the scientific and engineering staff, providing access to scientific computing resources and permitting local area networking of research workstations. They allow the integration of distributed ADP resources, both secure and unclassified. This investment is for the routers, bridges, and control sstems needed to upgrade the Dahlgren network backbone.

Justification

Benefits include better use of existing resources through interconnection, widespread access to tools and computer resources, and effective access to external activities. Expanded and enhanced networks will allow scientists and engineers to work more effectively due to data sharing capability and to save time and money due to higher speed, more reliable communications. This investment is a continuation of ongoing efforts t maintain and enhance network capability to standards. Efforts budgeted in FY95 were delayed to implement mandated budget reductions.

Impact

The NSWCDD network backbone is the primary means for data communication at the Dahlgren site and with off-site locations (other Dahlgren Division sites, Headquarters, sponsors, etc.).. Insufficient capability to transmit data at adequate quantities and speed will delay operations and increase costs exponentially.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 17/DIVISION NETWORK (Hardware)			D. Site Identification NSWC Crane, IN					
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				1	1750	1750						

Narrative Justification:

Description

The purpose of this project is to install a standards-based telecommunications network at Crane Division, Naval Surface Warfare Center to support the transmission of video, voice, data and imaging information to and from buildings occupied by the Navy and its tennant activities. The proposed network will employ state-of-the-art, cell-based switching technology while at the same time supporting interfaces which are compatible with legacy networks that are being used within the buildings today.

Justification

The existing network does not meet present or future requirements for several reasons. Reliability is very low, and aborted connections occur on a frequent basis. This can be attributed to the large number of active components and an aerial trunk system that is exposed to the elements. A second limitation is speed. Given the technology used, the maximum speed and throughput that can be supported is 10Mbps. This is insufficient for the number of users that Crane has, and cannot support the growing requirements for data transmission brought on by client-server applications. Lastly, the network is fast approaching saturation of its frequency spectrum. The proposed network will provide superior reliability, speed and throughput. Fewer active components will be required, thereby lowering the probability of system failure. Scalable technologies will be used so that speed and bandwidth can be easily increased to accommodate Crane's ever-changing requirements for information transfer.

Impact

If this project is not approved, Crane will continue to be dependent upon a network technology that cannot even meet the needs of today. Crane will also be subject to communications outages that are now common place with the existing network. This will severely constrain any attempts to implement productivity savings through shared resources and computer technology. Furthermore, communications requirements increase each day as a result of new computer applications that are dependent upon data communications.

Capital Purchases Justification (Dollars in Thousands)	A. Budget Submission FY 1999 PRESIDENT'S BUDGET

B. Component/Business Area/Date	C. Line# and Description	D. Site Identification
NSWC/February 1998	18/INTEGRATED SOFTWARE ENGINEERING ENVIRON (Hardware)	NSWC Dam Neck, VA

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP	1	356	356	1	385	385	1	385	385			

Narrative Justification:

Description

This phased project will procure large scale data base and application servers, workstations, support software, and communications services to tie into existing and future networks.

Justification

This project will integrate and redefine our Software Engineering Environments (SEES) to support all functional areas of the software engineering process. The Integrated Software Engineering Environment (ISEE) will support the Corporate Management Information System (CMIS) with metrics and real-time project status tracking. The increased control of products and processes will assist our software security and safety programs. With a common user interface across all platforms, the ISEE will allow a greater degree of flexibility in using limited and declining resources. This system will assist the division in raising its Software Engineering Institute's (SEI) Capability Maturity Model (CMM) level and maintaining it. This effort will support multiple projects including: FFG-7, DD963, DDG993, BFTT (Battle Force Tactical Trainer), Command Station, TENA (Test & training Enabling Architecture) and CDK (Common Display Kernal).

Impact

The current fragmented SEE is labor intensive and error prone. Inefficiencies within the current system, coupled with the continuing labor force reductions, will hamper our ability to adequately support fleet engineering requirements.

Capital Purchases Justification (Dollars in Thousands)						A. Budget Submission FY 1999 PRESIDENT'S BUDGET						
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 19/NETWORK CONNECTIVITY (Hardware)				D. Site Identification NSWC Port Hueneme, CA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				1	600	600	1	520	520			

Narrative Justification:

Description

This project will increase the capabilities and speed of Port Hueneme Division's network by procuring and installing networking devices including fiber optic routers, bridges, and/or gateways, multiport ethernet hubs, optical fiber transmission equipment/material, and ATM devices.

Justification

This project replaces non-standard cable infrastructure, provides a higher bandwidth backbone, and allows implementation of a "global" system security architecture. Increasing engineering requirements in support of JCALS (Joint Computer-aided Acquisition & Logistics Support) and JEDMICS (Joint Engineering Data Management Information & Control System) require a more complex network to operate. The functions supported on the network are in direct support of testing and certifying weapon systems software to support the fleet. Continued manpower reductions will provide a requirement to ensure efficient electronic exchange in response to increasing fleet demands.

Impact

Port Hueneme Division will not be able to make use of and share data electronically, which is imperative to fulfilling mission requirements and providing quality fleet support, without network upgrades.

Capital Purchases Justification (Dollars in Thousands)									A. Budget Submission FY 1999 PRESIDENT'S BUDGET			
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 20/SATELLITE COMMUNICATION EQUIPMENT (Hardware)				D. Site Identification NSWC Panama City, FL				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP							1	1050	1050			

Narrative Justification:

Description

The Satellite Communications Equipment is a bidirectional satellite link that will provide the Coastal Systems Station with real-time connectivity to the fleet via the Modeling & Simulation resources. It will consist of associated satellite antenna, transmitters, receivers, control displays and a digital interface to the Modeling & Simulation facility. This investment was delayed from FY98 in order to take advantage of expected technological advances in satellite communications channel equipment.

Justification

This equipment is necessary to provide direct support to the fleet for contingency missions, to support fleet training, and to participate in large scale exercises. The Coastal Systems Station must maintain a close tie with the fleet, providing support for missions and fleet training within our mission areas of Mine Warfare, Special Operations, Amphibious Warfare, and Expeditionary Warfare. This equipment will allow the Coastal Systems Station to provide this support.

Impact

The need exists for the Coastal Systems Station to maintain real-time communications with the fleet for training and simulated exercise missions. The satellite equipment will provide the Coastal Systems Station the ability to communicate in a real-time environment with the fleet.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 21/CLASSIFIED NETWORKS (Telecommunications Equip.)				D. Site Identification NSWC Dahlgren, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				1	481	481	1	568	568			

Narrative Justification:

Description

Classified Networks will provide a high speed, scalable, corporate-wide classified network backbone. This backbone will provide a classified environment in which to gain access to and share information between the scientific and engineering computer systems and the modeling and simulation computing systems.

Justification

Currently there is not a classified networks backbone at the Dahlgren site, although there is an unclassified networks backbone in place. In the past, Dahlgren site has tried to have the various sponsors provide the classified networks needed to support their own efforts. However, this has proven to be very inefficient. Some classified networks exist within buildings, and there are even some point-to-point connections. But, these networks are seldom fully connected to each other, and they are not always able to communicate with each other. This investment, augmented by equipment that assures the security of the data transmitted, will utilize existing network infrastructure where possible (e.g., underground conduits already in place), to create a base-wide classified network that connects the scientific and engineering computer resources in the various buildings. Network backbone architecture is more cost effective than point-to-point connections between the buildings. This corporate classified network backbone will support virtually all classified programs by providing access to more computational and display capabilities that are dispersed across the base.

Impact

There is no corporate classified network backbone at the Dahlgren site. As a result, there are many hours of lost productivity due to travel to the various computing resources, hand carrying data to various locations, duplication of equipment to mitigate the travel times, and inefficient computing technologies which are used to perform the analyses. Without this investment, the inability to share information, access computing resources, and utilize new and more efficient computations methods and tools will continue to prevail within the classified community.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 22/ADP TELECOMMUNICATIONS CABLES (Hardware)				D. Site Identification NSWC Indian Head, MD				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				1	1000	1000						

Narrative Justification:

Description

The project will replace the current copper backbone Local Area Network (LAN) with a fiber-optic backbone throughout the Indian Head Division.

Justification

Indian Head Division currently maintains a 135 building copper network, originally installed in 1983. This network does not provide the speed, bandwidth, or reliability that is required for client/server computing. Additionally, maintenance is becoming more costly due to frequent failures and the physical obsolesence of the the backbone.

Impact

Without a base wide fiber optic backbone replacement, client/server interface will be impeded, downtime will increase, and maintenance costs will continue to increase.

Capital Purchases Justification (Dollars in Thousands)				A. Budget Submission FY 1999 PRESIDENT'S BUDGET		
B. Component/Business Area/Date NSWC/February 1998		C. Line# and Description 23/WARFARE EVALUATION SYSTEM (Hardware)		D. Site Identification NSWC Panama City, FL		

ELEMENTS OF COST	FY 1997			FY 1998			FY 1999			FY 2000		
	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				1	950	950						

Narrative Justification:

Description

This investment will provide the Coastal Systems Station's Modeling & Simulation (M & S) development project with the computational power required to execute warfare simulation programs. It will include a next generation multi-processor supercomputer and an upgrade to the existing simulation visualization program hardware, providing a 120-degree panoramic viewing window or three independent viewing windows for the overhead projection system. This investment has been accelerated to accommodate emergent simulation visualization needs in the Expedition Warfare Simulation arena.

Justification

The computational load on existing computer resources will become prohibitive with the increase in the number and complexity of systems being added to the current M & S system. For the Coastal Systems Station to remain a leader in the Expeditionary Warfare simulation arena, we must take advantage of new computer architectures that will ensure timely, accurate solutions. Mine Warfare Environmental Server functions, Hardware-in-the-Loop simulations, complex high-fidelity physics models, and complex multi-warfare scenario simulations, all require current M & S technological capabilities. The Simulation Visualization Program upgrade is necessary to maintain state-of-the-art technology in three-dimensional visualization software development.

Impact

If this project is not funded the productivity of simulation analysis will be negatively impacted. Currently hundreds of production runs are needed to ensure a valid statistical result for a study. The hours needed to make a production run will continue to increase as the fidelity of simulations increase, resulting in the need for more computational power just to maintain the status quo.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 24/SERVER ARCHITECTURE (Hardware)				D. Site Identification NSWC Port Hueneme, CA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP	1	171	171	1	375	375	1	325	325			

Narrative Justification:

Description

This is a multi-year project which provides for open systems equipment including network/file servers, print servers, removable media servers, communications servers, client/server software, and network interface software to transition to a client-server AIS architecture.

Justification

The purpose of the servers is to reduce the need for additional computer resources across the command by allowing sharing of resources such as printers, CDROM (Compact Disc Read Only Memory), towers, and fax machines. The servers will also provide storage of application master files and data bakup at a central location. Additionally, applications at the server level are easy to monitor resulting in a lower cost for software and future upgrades.

Impact

The current system is not capable of meeting the demands of increased usage requirements and transitioning to a full functioning "paperless office" environment. This project also supports and is consistent with the Navsea Information Management Improvement Program (NIMIP) projects.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 25/PAPERLESS ENVIRONMENT (Hardware)				D. Site Identification NSWC Port Hueneme, CA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				1	540	540	1	300	300			

Narrative Justification:

Description

Acquisitions will include network/file servers, print servers, removable media servers, communications servers, web servers, database software, client/server software, and network interface sotware to be able to support a robust integrated data processing and retrieval architecture. This is a follow-on project to document management and report/data retrieval projects.

Justification

This project will enable command users to share and maximize use of electronic information while protecting data from loss and unauthorized access. In addition, it will enable faster response time when reviewing technical data and urgent messages and will result in the streamlining of current processes.

Impact

Port Hueneme Division's ability to make use of and share data electronically will not be met without this procurement.

Capital Purchases Justification (Dollars in Thousands)						A. Budget Submission FY 1999 PRESIDENT'S BUDGET						
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 26/COMPUTER SECURITY/INTRUSION PREVENTION			D. Site Identification NSWC Port Hueneme, CA					
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP	1	422	422	1	200	200	1	200	200			

Narrative Justification:

Description

Project procures security/firewall hardware and associated software, high-speed encryption devices, and secure telecommunications devices to provide a secure system at the Port Hueneme Division Site.

Justification

This multi-year project supports security/firewall hardware and software, high-speed encryption devices, and secure telecommunications devices to protect the command's network from intrusion and implement a global system security architecture that reduces the threat of unauthorized user access and satisfies (C-2 = Control Access Protection: A class of security as defined by DOD 5200.28-std) security requirements. Implements initial electronic Naval Messaging System capability (DOD) as part of the paperless environment initiative.

Impact

The command is currently vulnerable to intrusion and security attacks which could lead to the compromise of sensitive data and can result in hundreds of workhours and thousands of dollars to recover. If this project were cancelled, PHD NSWC could not be certified as C-2 compliant which could result in denied access to confidential and secret information. We currently have a waiver for such compliance for the near term since this project is budgeted with the 1st phase currently executing.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 27/ENGINEERING ENVIRONMENT (Hardware)				D. Site Identification NSWC Dahlgren, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP	1	187	187	1	275	275	1	340	340			

Narrative Justification:

Description

This investment will replace several workstations and PCs, currently functioning as file servers, software license server, and CAE workstations, with a graphics computer in FY96. A projections system will be acquired in FY98, and video upgrades for the graphics computer will be acquired in FY99. This capability provides the necessary environment for design, documentation, and analysis, as well as modeling and simulation, of weapons systems. The FY98 requqest has been increased by $125K, to accommodatethe digital storage equipment needed to comply with DOD 5000.2R.

Impact

This equipment is essential to maintain current technology for systems level prototyping. If it is not procured, operational costs will continue to increase, additional labor will be required, and some tasks will be much more difficult, if not impossible, to perform.

Capital Purchases Justification (Dollars in Thousands)												
A. Budget Submission: FY 1999 PRESIDENT'S BUDGET												
B. Component/Business Area/Date: NSWC/February 1998				C. Line# and Description: 30/STRIKE WARFARE PROTOTYPING LABORATORY (Hardware)				D. Site Identification: NSWC Dahlgren, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				1	400	400	1	300	300			

Narrative Justification:

Description

This equipment for the Strike Warfare Prototyping Laboratory will provide the capability to fully simulate all components of cruise missile systems, including: mission planning, communications, preparation and launch, and real-time missile simulation. These acquisitions consist of graphics engines and a parallel processing system with subsequent upgrades for each. These investments will enhance and upgrade the parallel processing and visualization systems initiated in the Algorithm Development Facility.

Justification

The proposed facility will allow for a fully integrated and efficient testing, prototyping and Distributed Interactive Simulation (DIS) environment. Dahlgren Division is currently developing integrated testing and simulation resources in support of the advanced technology projects. The equipment will be used both for internal projects in concept development and prototyping and as a play in the DIS exercises in the areas of Strike Warfare and Naval Surface Fire Support mission planning and targeting systems.

Impact

These efforts will lead to more efficient and robust integration testing and the reduction of flight tests. In addition, they will provide a full weapon system simulation bed for experimentation of new technology. Without this equipment, tasking will be performed manually with less capable computers, requiring four additional personnel. Completing the tasks will take longer and the probability of success will be greatly reduced due to inadequate tools.

Capital Purchases Justification (Dollars in Thousands)								A. Budget Submission FY 1999 PRESIDENT'S BUDGET				
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 31/LAN FIBER OPTIC SYSTEM (Hardware)				D. Site Identification NSWC Panama City, FL				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				1	300	300	1	400	400			

Narrative Justification:

Description

This project will complete Phases V and VI, and begin Phase VII, of the LAN Fiber Optic System implementation plan. The Coastal Systems Station (CSS) has a very detailed implementation plan for its fiber optic system, dividing implementation into eight "phases". These phases divide CSS into regions, which are then ordered by urgency of implementation. Included in the project are Asynchronous Transfer Mode (ATM) electronics upgrades, fiber cable plant expansions, and Fiber Distributed Data Interface (FDDI) electronics.

Justification

Due to increasing LAN backbone traffic, there is a need for migration to higher speed LAN technology. New technologies are being deployed in support of critical technical projects, utilizing larger amounts of network bandwidth. ATM is a scalable technology which will meet our needs well into the future. The deployment of an ATM backbone is an integral part of the eight-phase Fiber Optic System implementation plan and is vital to the mission of the Coastal Systems Station.

Impact

If the proposed investment is not approved, it will delay completion of other phases of the LAN Fiber Optic System implementation plan. Some technical projects will put a large burden on available network backbone bandwidth, causing slowdowns to the detriment of others.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 32/TRUSTED LAN HUB (Other Support Equip.)				D. Site Identification NSWC Dam Neck, VA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP	1	295	295	1	200	200	1	200	200			

Narrative Justification:

Description

The trusted Local Area Network (LAN) hub consists of the hardware and operating software to connect several heterogeneous LANs of various security classifications at our East Coast Operations (ECO). The resultant Local Area Network will comply with B2--Structured Protection: A class of security as defined by DOD 5200.28-STD, Trusted Computer Security Evaluation Criteria multi-level requirements of the National Security Center.

Justification

The proposed equipment has been evaluated and rated by NSWC and is approved as a trusted multi-level secure hub. The NAVSEA Information Management Improvement Program (NIMIP) mandates the establishment of on-line network access for message traffic and other NAVSEA organization management activities. In order to implement these requirements, a trusted hub is needed to connect networks of various classifications and architectures while still complying with NAVSEA 5239.1B.

Impact

Current East Coast Operations operate on seperate networks resulting in a manual transfer of information. The Message Distribution System (MDS) will force the Office Automation Local Area Network to be isolated from administrative support system. With the procurement of a trusted LAN hub software engineering, and security systems for four locations will be centralized, stadardized, and administered from one location.

Capital Purchases Justification (Dollars in Thousands)						A. Budget Submission FY 1999 PRESIDENT'S BUDGET						
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 34/SOFTWARE ENGINEERING CAPABILITY IMPROVEMENT INITIA			D. Site Identification NSWC Panama City, FL					
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP	1	374	374	1	250	250						

Narrative Justification:

Description

This project includes the acquisition of LAN-based servers, the software tools installed on them, and computer systems to support requirements of the Capability Maturity Model (CMM) and several other Coastal Systems Station (CSS) mission areas. The CMM presents sets of recommended practices in a number of key process areas that have been shown to enhance software development and maintenance capability, helping organizations improve their software processes. CSS has placed a high priority upon implementing the CMM.

Justification

This proposal will enable more effective project management and engineering processes on software-intensive projects through network-based servers & tools, and will mesh with the on-going CSS Software Initiative Strategic Plan. The software component of our direct projects is increasing and is expected to dominate our business base in the future.

Impact

Funding this project will strengthen our capability to successfully execute software-intensive projects that are expected to dominate our business base into the next century. We will also reduce our cost of rework on software-intensive projects.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 36/EXPEDITIONARY WARFARE SHIPBOARD NETWORK (Hardware)				D. Site Identification NSWC Panama City, FL				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP				1	200	200	1	322	322			

Narrative Justification:

Description

This proposal consists of a high speed, Asynchronous Transfer Mode (ATM) network test bed for shipboard situation awareness and decision support for amphibious and mine warfare ships. The equipment purchased will include fiber optic links, workstations, lightstream switches, a multi-layer switch, and test bed simulation and control software.

Justification

Shipboard combat and support systems will facilitate the introduction of industrial technology in lieu of specially designed military systems. This new paradigm requires the ability to rapidly field and test new systems prior to installation aboard ship. This shipboard network will provide for full scale integration of combat systems and ship decision support systems, and will support systems located in multiple spaces, connected by a ship-wide, high-speed network. The result will be significant improvement in ship flexibility and survivability.

Impact

This equipment will provide the Coastal Systems Station with full scale integration of combat systems and ship decision support equipment for amphibious and mine warfare ships and analysis by field personnel.

Capital Purchases Justification (Dollars in Thousands)							A. Budget Submission FY 1999 PRESIDENT'S BUDGET					
B. Component/Business Area/Date NSWC/February 1998				C. Line# and Description 37/Asynchronous Transfer Mode High Speed Data Comm				D. Site Identification NSWC Port Hueneme, CA				
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ADP							1	500	500			

Narrative Justification:

Description

Procurement of standards based Asynchronous Transfer Mode (ATM) technology that will enable the NWAD data communications infrastructure to support user applications which integrate voice, data, and video. ATM technology consists of both hardware and software. ATM technology offers guaranteed quality of service and the bandwidth needed for high-quality voice and video.

Justification

Required to continue to provide the command with the data communications infrastructure necessary to fulfill fleet mission requirements. As more of the end-user applications such as E-Mail with attached multi-media files, video teleconferencing, graphical analytical tools, and emerging modeling and simulation programs are incorporated into NWAD's day-to-day business practices, the data communications infrastructure must be modified and enhanced to cope with the added requirements on bandwidth, speed, reliability, and interoperability. ATM technology has the capacity for video to the individual desktop as well as the capacity to significantly increase aggregate backbone speeds. Additionally, NWAD supports military projects which often use ATM based technology to transfer mission exercise data near real-time via satellites to various exercise locations. NWAD's capability to continue the seamless transfer of this data all the way to the individual analyst's work stations attached to data communications infrastructure enables rapid feedback to the exercise participants.

Impact

If standards based ATM technology is applied to the NWAD data communications infrastructure, NWAD will not have the capability to support end-user applications which integrate voice, data, and video. As such, the command will not be in a position to support military applications in the areas of modeling and simulation, desktop video teleconferencing, multi-media E-Mail, etc. This will severely impact NWAD's abilities to support the fleet as well as our ability to be leaders in the area of fleet analysis.

Capital Purchases Justification (Dollars in Thousands)		A. Budget Submission FY 1999 PRESIDENT'S BUDGET		
B. Component/Business Area/Date NSWC/February 1998	C. Line# and Description 38/Miscellaneous (ADP < $500K; > $100K)	D. Site Identification NA		
	FY 1997	FY 1998	FY 1999	FY 2000
ELEMENTS OF COST	Total Cost	Total Cost	Total Cost	Total Cost
TOTAL COST	5690	4874	3704	0

Capital Purchases Justification
(Dollars in Thousands)

A. Budget Submission
FY 1999 PRESIDENT'S BUDGET

B. Component/Business Area/Date
NSWC/February 1998

C. Line# and Description
39/NIMIP SOFTWARE

D. Site Identification
NSWC Dam Neck, VA

	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Software	1	2498	2498	1	6371	6371	1	3143	3143			

Narrative Justification:

Description

1. The NAVSEA Information Management Improvement Program Implementation (NIMIP) is intended to provide the Information Technology (IT) support required to sustain Command missions. An essential element of the NSWC plan is to improve responsiveness and enhance capability and productivity. NSWC's business case stresses standardization of business systems which eliminates costly, specialized IT environments. The program requirements standardize automation support in the areas of: (1) personnel management (completed), (2) Payroll management (completed), (3) Finical Management (NIFIMS), and (4) materials and labor management (ILSMIS) and (SLDCADA). Standardized procedures will eliminate the need for redundant systems and migrate applications to an Open System Environment (OSE) eliminating in-house proprietary computers.

2. NSWC's portion of NIMIP places emphasis on standardization of DOD functions. NSWC has been directed to implement the DOD interim financial system of NAVAIR Industrial Financial Management System (NIFIMS) during FY 98 and FY 99 beginning with a pilot program in FY 97. NIFIMS will replace legacy systems currently being utilized by the research and development community. Because of the scope and magnitude of this project, the cost to eliminate the five NSWC DBOF systems is significant.

Justification

Impact

Capital Purchases Justification (Dollars in Thousands)		A. Budget Submission FY 1999 PRESIDENT'S BUDGET		
B. Component/Business Area/Date NSWC/January 1998	C. Line# and Description 40/Miscellaneous (Software < $500K; > $100K)		D. Site Identification NA	
	FY 1997	FY 1998	FY 1999	FY 2000
ELEMENTS OF COST	Total Cost	Total Cost	Total Cost	Total Cost
TOTAL COST	223	826	12	0

Capital Purchases Justification (Dollars in Thousands)												A. Budget Submission FY 1999 PRESIDENT'S BUDGET
B. Component/Business Area/Date NSWC/February 1998						C. Line# and Description 41/HEAVY EQUIPMENT MAINTENANCE SHOP				D. Site Identification NSWC Crane, IN		
	FY 1997			FY 1998			FY 1999			FY 2000		
ELEMENTS OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Minor Construction							1	950	950			

Narrative Justification:

Description

Construction of a permanent, 10,000 square foot, maintenance shop for heavy equipment repair and maintenance. This facility will house 7 general purpose, "drive through" bays and 2 large, "drive through" bays for bulldozers, etc. The general purpose bays will have a working height of 14 feet, and the doors will be 14' x 14'. The larger bays will have 20 foot working height, and the doors will be 20' x 20'. The facility must also include two air-operated hoists.

Justification

A new facility is required for the maintenance and repair of heavy equipment in the activity's $9 million inventory. This equipment is essential for the Flee's weapons subsystems, equipment and components, pyrotechnics, small arms and other critical items. The equipment also heavily supports the production, storage and transport operations of Crane Army Ammunition Activity, a major tenant and Single Manager for Conventional Ammunition. Heavy equipment maintenance functions are currently being performed in a deteriorated wooden structure which was built with used lumber during Word War II. The wooden structure has exceeded its life expectancy, and further repair is no longer feasible. Structural analysis and inspection of the trusses indicate that a 44% overstress exists in the top chord members, which are beginning to buckle. Bottom chord members have already failed, requiring temporary supports to be installed. Analysis also indicates structural uplift problems when the facilities are subjected to average wind load. These structural weaknesses could possibly endanger lives and equipment during violent windstorms or snowstorms and will cause serious impairment to heavy equipment maintenance operations should further damage or collapse of the deteriorated structure occur.

Impact

If the existing heavy equipment maintenance facility is not replaced, the activity will be unable to adequately maintain its large inventory of motorized equipment and to accomplish assigned tasks. Further deterioration will result in abandonment of the existing structure. Reduced reliability and and shortages of heavy equipment will severely impact the ability of the activity and its tenants to quickly respond to vital military requirements.

Capital Purchases Justification (Dollars in Thousands)		A. Budget Submission FY 1999 PRESIDENT'S BUDGET	
B. Component/Business Area/Date NSWC/February 1998	C. Line# and Description 42/Miscellaneous (Minor Construction < $500K; > $100K)	D. Site Identification NA	

	FY 1997	FY 1998	FY 1999	FY 2000
ELEMENTS OF COST	Total Cost	Total Cost	Total Cost	Total Cost
TOTAL COST	5315	3290	2139	0
Miscellaneous Minor Construction	1720	857	999	
CASTING UPGRADE, PHASE 1, BLDG 743		200		
CONSOLIDATE LIGHT INDUST FUNCT (BLDG 2)			200	
DEEP MOOR SHORE POWER		200		
REPLACE QUONSET HUTS B424 AREA	200			
ADDITION TO BLDG. 10		201		
NEW SEA WALL	218			
B.1 ADDITION 2ND STORY - BAYVIEW		225		
FUEL CELL R&D LABORATORY - PHILADELPHIA		226		
CONSTRUCT FACILITY FOR MEDIA BLASTING		250		
Dahlgren Design Costs - FY 98	253			
TEST SUPPORT SHOP		262		
LSMB Pier		274		
PROVIDE VOLTAGE REG - SUB 2 & 6 ()			290	
RENOVATE B-2084	291			
ELECTRIC POWER EXTENSION		295		
CHRIMP FAC (CONS HAZ REVITALIZATION IMPLEN MGT PL)		300		
CONSTRUCT CHANGE ROOM			300	
GAS TURBINE GENERATOR TEST CELL			350	
CONTROL ROOM EXTENSION	354			
WEAPONS O/H AREA B-2521	383			
TTSP Facility	406			
REPLACE FLASH X-RAY TEST FACILITY	418			
SUPPLY WAREHOUSE BLDG	422			
Paving for Soil Conservation	480			

Department of the Navy
Activity Group: R/D
Sub-Activity Group: NSWC
FY 1999 PRESIDENT'S BUDGET

Line Pres	Item Pres	FY 98 Project Title	FY 99 President's	+/-	FY 99 President's	Explanation
		Non ADP				
1	1	HIGH-RISE STORAGE RACK SYSTEM FOR BLDG 40	1.058	.000	1.058	No Change
9	2	ELECTRONIC ACCESS CONTROL SYSTEM (Replacement)	.350	.000	.350	No Change
7	7	RANGE SUPPORT EQUIPMENT	.250	.000	.250	No Change
8	10	PULSE POWER	.175	.000	.175	No Change
	9	DEMINERALIZER SYSTEM	.000	.534	.534	Emergent Requirement
11	12	Miscellaneous (Non ADP<$500K;>$100K)	8.211	-1.079	7.132	
		Non ADP Total:	10.044	-.545	9.499	
		ADP				
12	13	CDNET Modernization (Hardware)	2.089	.000	2.089	No Change
14	14	THEATER WARFARE SYSTEMS (Hardware)	1.885	-.615	1.270	Revised cost estimate
15	16	NETWORKS (Telecommunications Equip)	.390	.184	.574	Scope of work has been increased
16	17	DIVISION NETWORK (Hardware)	1.750	.000	1.750	No Change
18	15	CSCAT (COMBAT SYSTEMS ADV CONCEPTS & TECH) LAB (Hardware)	.400	.140	.540	Revised cost estimate
21	18	96EA407 - INTEGRATED SOFTWARE ENGINEERING ENVIRON (Hardware)	.385	.000	.385	No Change
17	19	NETWORK CONNECTIVITY (Hardware)	.600	.000	.600	No Change
23	26	96EA413 - COMPUTER SECURITY/ INTRUSION PREVENTION (Hardware)	.200	.000	.200	No Change
	23	WARFARE EVALUATION SYSTEM	.000	.950	.950	Emergent Requirement
29	24	PAPERLESS ENVIRONMENT	.540	.000	.540	No Change

FUND 9D

Department of the Navy
Activity Group: R/D
Sub-Activity Group: NSWC
FY 1999 PRESIDENT'S BUDGET

Line Pres	Item Pres	FY 98 Project Title	FY 99 President's	+/-	FY 99 President's	Explanation
25	29					
	21	SATELLITE COMMUNICATION EQUIPMENT (Hardware)	1.050	-1.050	.000	Project removed in FY 98 to FY 99
22	38	CLASSIFIED NETWORKS (Telecommunications Equipment)	.000	.481	.481	Emergent Requirement
19	24	ADPT: GENERAL FACILITY UPGRADE (Hardware)	.225	.000	.225	No Change
31	30	96EA405 - SERVER ARCHITECTURE (Hardware)	.375	.000	.375	No Change
26	27	STRIKE WARFARE PROTOTYPING LABORATORY (Hardware)	.400	.000	.400	No Change
27	22	ENGINEERING ENVIRONMENT	.150	.125	.275	Revised cost estimate
	34	(Hardware)				
		ADP TELECOMMUNICATIONS CABLES	1.000	.000	1.000	No Change
32	31	SOFTWARE ENGINEERING CAPABILITY	.000	.250	.250	Emergent Requirement
36	32	IMPROVEMENT INITIA				
		LAN FIBER OPTIC SYSTEM	.300	.000	.300	No Change
37	36	96EA406 - TRUSTED LAN HUB (Other	.200	.000	.200	No Change
39	38	Support Equipment)				
		EXPEDITIONARY WARFARE SHIPBOARD	.200	.000	.200	No Change
		Miscellaneous (ADP<$500K;>$100K)	4.019	.630	4.649	
		ADP Total:	16.158	1.095	17.253	
40	39					
	40	**Software**				
		NIMIP Software	5.846	.525	6.371	Increase due to emergent DIFMS requirements
		CASH MODEL	.000	.024	.024	Emergent Requirement

FUND 9D

Department of the Navy
Activity Group: R/D
Sub-Activity Group: NSWC
FY 1999 PRESIDENT'S BUDGET

Line Pres	Item Pres	FY 98 Project Title	FY 99 President's	+/-	FY 99 President's	Explanation
41	40					
49	42	Miscellaneous (Software<$500K;>$100K)	0.802	0	.802	
		Software Total:	6.648	.549	7.197	
52	42					
57	42	**Minor Construction**				
	42	CHRIMP FAC (CONS HAZ	.300	.000	.300	No Change
60	42	REVITALIZATION IMPLEN MGT PL)				
		ELECTRIC POWER EXTENSION	.295	.000	.295	No Change
66	42	TEST SUPPORT SHOP	.262	.000	.262	No Change
		LSMB Pier	.000	.274	.274	Emergent Requirement
67	42	CONSTRUCT FACILITY FOR MEDIA	.250	.000	.250	No Change
70	42	BLASTING				
74	42	FUEL CELL R&D LABORATORY-	.226	.000	.226	No Change
75	42	PHILADELPHIA				
77	42	B-1 ADDITION 2ND STORY-BAYVIEW	.225	.000	.225	No Change
		ADDITION TO B-10	.201	.000	.201	No Change
		DEEP MOOR SHORE POWER	.200	.000	.200	No Change
		CASTING UPGRADE,PHASE 1,BLDG743	.200	.000	.200	No Change
		Miscellaneous (Minor Construction<$200K; >$100K)	1.131	-.274	.857	
		Minor Construction Total:	3.290	.000	3.290	
		Grand Total:	36.140	1.099	37.239	

FUND 9D

Department of the Navy
Activity Group: R/D
Sub-Activity Group: NSWC
FY 1999 PRESIDENT'S BUDGET

Line Pres	Item Pres	FY 99 Project Title	FY 99 President's	+/-	FY 99 President's	Explanation
		Non ADP				
9	2	ELECTRONIC ACCESS CONTROL SYSTEM (Replacement)	.150	.000	.150	No Change
	3	Battery Test System (Replacement)	.000	.300	.300	Emergent requirement to support expanding battery workload
5	6	HYPERSPECTRAL IMAGER	.600	.000	.600	No Change
7	7	RANGE SUPPORT EQUIPMENT	.290	.000	.290	No Change
8	10	PULSE POWER	.335	.000	.335	No Change
10	11	10,000 HP High Speed Water Brake	.500	.000	.500	No Change
11	12	Miscellaneous (Non ADP<$500K:>$100K)	9.250	2.209	11.459	
		Non ADP Total:	11.125	2.509	13.634	
		ADP				
12	13	CDNET Modernization (Hardware)	1.923	.000	1.923	No Change
14	14	THEATER WARFARE SYSTEMS (Hardware)	1.390	-.490	.900	Revised cost estimate has shown cost savings on this project
15	16	NETWORKS (Telecommunications Equip)	.761	-.163	.598	Increased authority in FY98; decrease authority in FY99 in support of workload requirements
18	15	CSACT (COMBAT SYSTEMS ADV			.000	
		CONCEPTS & TECH) LAB (Hardware)	.410	.190	.600	Scope of work has been increased to support current workload requirements
21	18	96EA407 - INTEGRATED SOFTWARE ENGINEERING ENVIRON (Hardware)	.385	.000	.385	No Change
17	19	NETWORK CONNECTIVITY (Hardware)	.750	-.230	.520	Cost decrease

Department of the Navy
Activity Group: R/D
Sub-Activity Group: NSWC
FY 1999 PRESIDENT'S BUDGET

Line Pres	Item Pres	FY 99 Project Title	FY 99 President's	+/-	FY 99 President's	Explanation
23	26	96EA413-COMPUTER SECURITY/ INTRUSION PREVENTION (Hardware)	.200	.000	.200	No Change
28		WARFARE EVALUATION SYSTEM	.950	-.950	.000	Project has been forwarded to FY98 to accommodate simulation visualization
29	25	PAPERLESS ENVIRONMENT	.400	-.100	.300	Revised cost estimate
25	20	SATELLITE COMMUNICATION EQUIPMENT (Hardware)	.000	1.050	1.050	Project has been moved from FY98 for technology advancements
	21	CLASSIFIED NETWORKS (Telecommunications Equipment)	.000	.568	.568	Emergent requirement to support policy changes for Dahlgren's classified work
22		ADPT: GENERAL FACILITY UPGRADE (Hardware)	.225	.000	.225	No Change
19	24	95EA504 - SERVER ARCHITECTURE (Hardware)	.325	.000	.325	No Change
31	30	STRIKE WARFARE PROTOTYPING LABORATORY (Hardware)	.300	.000	.300	No Change
26	27	ENGINEERING ENVIRONMENT (Hardware)	.340	.000	.340	No Change
32	31	LAN FIBER OPTIC SYSTEM	.400	.000	.400	No Change
33		NEXT GENERATION ADVANCED NETWORK SYSTEM (Hardware)	.680	-.680	.000	Project removed; current workload is declining and does not justify investment
32	32	96EA406 - TRUSTED LAN HUB (Other Support Equipment)	.200	.000	.200	No Change
37	36	EXPEDITIONARY WARFARE SHIPBOARD NETWORK (Hardware)	.322	.000	.322	No Change

FUND 9D

Department of the Navy
Activity Group: R/D
Sub-Activity Group: NSWC
FY 1999 PRESIDENT'S BUDGET

Line Pres	Item Pres	FY 99 Project Title	FY 99 President's	+/-	FY 99 President's	Explanation
	37	Asynchronous Transfer Mode High Speed Data Comm	.000	.500	.500	Emergent Requirement
39	38	Miscellaneous (ADP<$500K;>$100K)	3.033	.446	3.479	
		ADP Total:	12.994	.141	13.135	
		Software				
40	39	NIMIP SOFTWARE	2.873	.270	3.143	Increase due to emergent DIFMS requirements
	40	CASH MODEL	.000	.012	.012	Emergent Requirement
	40	Miscellaneous (Software<$500K;>$100K)	.000	.000	.000	
		Software Total:	2.873	.282	3.155	
		Minor Construction				
	41	Heavy Equipment Maintenance Shop	.000	.950	.950	Emergent Requirement
46		Water Treatment Facility	.300	-.300	.000	Delayed
	42	Gas Turbine Generator Test Cell	.000	.350	.350	Emergent Requirement
	42	Consolidate Light Indust Funct (Bldg 2)	.000	.200	.200	Emergent Requirement
	42	Construct Change Room	.000	.300	.300	Emergent Requirement
	42	Provide Voltage Reg - Substation 2 & 6	.000	.290	.290	Emergent Requirement
72		Renovate Old Physical Repair Area	.200	-.200	.000	Project discontinued
	42	Miscellaneous (Minor Construction <$500K;>$100K)	.409	.590	.999	
		Minor Construction Total:	.909	2.180	3.089	
		Grand Total:	27.901	5.112	33.013	

FUND 9D

FY 1999 PRESIDENT'S BUDGET
NAVY WORKING CAPITAL FUND
RESEARCH AND DEVELOPMENT
NAVAL UNDERSEA WARFARE CENTER

A. MISSION STATEMENT

The mission of the Naval Undersea Warfare Center (NUWC) is to operate the Navy's full-spectrum research, development, test and evaluation, engineering and fleet support Center for submarines, autonomous underwater systems, and offensive and defensive weapon systems associated with Undersea Warfare.

B. ACTIVITY GROUP COMPOSITION

The Naval Undersea Warfare Center was established in January 1992, and is comprised of two divisions located in Newport, RI and Keyport, WA and several detachments of these organizations. The Center Management organization is located at Newport, RI. All NUWC organizations are included in the Navy Working Capital Fund (NWCF).

C. BUDGET HIGHLIGHTS

1. Summary:

	FY 1997	FY 1998	FY 1999
New Orders	715.4	631.6	623.6
Revenues	814.5	732.5	699.8
Costs of Goods/Services	821.2	735.9	693.6
Net Operating Results	(6.7)	(3.4)	6.2
Accumulated Operating Results	(2.8)	(6.2)	0
Direct Workyears	3289	3128	3070
Indirect Workyears	1222	1098	1028
Service Workyears	403	404	380
Total Workyears (less OT)	4914	4630	4478
End Strength (civilian)	4516	4536	4385
Military End Strength	44	53	52

2. Management Statement

NAVAL UNDERSEA WARFARE CENTER
FY99 PRESIDENT'S BUDGET

NUWC's budget continues to reflect a decline of workload. By the end of Fiscal Year (FY) 1999, 3,635 people (a 45 percent reduction) will have left the workforce since FY 1992, and new work and funds will have decreased 40% to about $624 million annually.

The Center continues to pursue innovative ways to "rightsize", yet continues to deliver quality products and to improve customer satisfaction.

- In March 1994, the Department of Defense (DoD) designated NUWC a Science & Technology Re-Invention Laboratory. Under this program, the Center is able to identify and eliminate costly regulation that impedes efficient laboratory operations. Since our acceptance into this program, NUWC has implemented 74 re-invention initiatives developed by our military and civilian personnel.

- In concert with the Naval Surface Warfare Center, NUWC will implement the Navy Warfare Center Personnel Demonstration (Personnel Demo) under the sponsorship of the DoD Laboratory Quality Improvement Program. This program is designed to introduce innovative methods for managing the civilian workforce.

Center Management will continue to take steps necessary to ensure that its civilian workforce is balanced to workload.

- In May 1997 Division Keyport conducted a Reduction in Force (RIF) of 65 civilian personnel. In addition, both Divisions approved Separation Incentive Pay (SIP) for an additional 458 civilian personnel.

- The Center's budget submission for fiscal years 1997-1999 includes provisions to (1) continue the use of Voluntary Early Retirement Authority/SIP to ease rightsizing and (2) conduct selective hiring in critical areas. NUWC is budgeting for 120 SIP separations in FY 1998 and 20 separations in FY 1999. At this time, no RIF is planned, however we have budgeted approximately $1.0M in FY 1998 to cover RIF costs associated with the FY 1997 RIF at Division Keyport.

NAVAL UNDERSEA WARFARE CENTER
FY 1999 PRESIDENT'S BUDGET

3. **Workload Funding**

Current Estimate:	FY 1997	FY 1998	FY 1999
Orders Received	715.4	631.6	623.6
Revenue	814.5	732.5	699.8

4. **Overhead:**

	FY 1997	FY 1998	FY 1999
Current Estimate:			
Total Overhead	192.4	178.7	170.5
Prod	52.1	51.2	50.9
G&A	140.3	127.5	119.6

Reductions from the President's Budget are the result of a number of cost cutting actions. Significant overhead reductions were made possible by FY 1997 workload/workforce balancing.

In previous years, NUWC deferred major real property maintenance in order to meet overhead reductions. Additional investments in MRP of approximately $2.6 million annually have been included in this submit to address a growth in the maintenance backlog.

5. **Accumulated Operating Results (AOR)**

Current Estimate:	FY 1997	FY 1998	FY 1999
NOR	(6.7)	(3.4)	6.2
Beg AOR	4.0	(2.8)	(6.2)
Ending AOR	(2.8)	(6.2)	0

The FY 1997 and FY 1998 Net Operating Results losses are primarily due to increased labor rates. NUWC is removing the most senior personnel through SIP/VERA initiatives, however there is no hiring at the entry levels to offset an aging workforce. Additionally, Center management developed a strategy to outsource lower skilled, less critical work while retaining higher skilled work in-house. This strategy results in lower contract costs to our customers, but it does increase average in-house labor costs.

6. **Selected interest Items**

a. All NUWC Base Realignment and Closure actions were completed by the end of FY 1997:

(1) The disestablishment of the NUWC Detachment, New London CT, and transfer of functions and personnel to the parent NUWC Division Newport is complete. Mission cease and operational closure dates were 31 December 1996 and 30 March 1997, respectively.

(2) The disestablishment of the Naval Undersea Warfare Center Underwater Sound Reference Detachment (USRD) (formerly the Naval Research Laboratory (NRL/USRD), Orlando FL and transfer of functions and personnel to NUWC Division Newport is complete. Mission cease and operational closure dates were 30 June 1997 and 30 September 1997, respectively.

(3) The realignment of ship's combat systems console refurbishment depot maintenance and general industrial workload to the Puget Sound Naval Shipyard (PSNS), from Division Keyport, is progressing as planned. The transfer of combat systems equipment, material, and employees to PSNS is complete. Facility modifications at PSNS are nearing completion. Facility modifications at PSNS are nearing completion in support of the heat treat function and full implementation is scheduled for February 1998.

(4) The relocation of the Torpedoman "C" School from the Naval Training Center, Orlando, FL to Division Keyport is complete including the renovation of buildings and movement of equipment.

b. The regionalization of the Human Resources Offices (HRO) in the northwest includes Division Keyport as well as other naval activities. The Regional Service Center (RSC), Silverdale WA, "stood up" in August 1997. We have budgeted for the transfer of 15 HRO employees from Division Keyport to the RSC during FY 1997.

NAVAL UNDERSEA WARFARE CENTER
FY 1999 PRESIDENT'S BUDGET

7. Capital Purchases Program (CPP)

CAPITAL PURCHASE PROGRAM
($ Millions)

	FY 1997	FY 1998	FY 1999
Authority			
Non ADP Equipment	$9.7	$ 6.3	$ 4.8
ADP	9.8	11.7	12.9
Minor Construction	2.7	2.1	1.9
Software Develop	.4	1.3	0.6
Total CPP	$22.6	$21.4	$20.2

8. Stabilized Billing Rates

	FY 1997	FY 1998	FY 1999
Stabilized Rate	$67.88	$68.90	$71.80
Stabilized Rate Change	-3.1%	+1.5%	+4.2%
Composite Rate Change	-0.2%	+1.7%	+3.0%

Stabilized rates are computed on a program year basis at Division Newport. At Division Keyport however, stabilized rates will continue on a fiscal year basis until implementation of the NAVAIR Industrial Fund Management System in FY 1999.

9. Manpower and Workyears

Current estimate:	FY 1997	FY 1998	FY 1999
End Strength (civilian)	4516	4536	4385
Direct Workyears	3289	3128	3070
Indirect Workyears	1222	1098	1028
Service Workyears	403	404	380
Total Workyears (less OT)	4914	4630	4478
End Strength (military)	44	53	52
Work Years (military)	46	54	53

10. **Unit Cost**

	FY 1997	FY 1998	FY 1999
Direct Labor Hours (000)	5979	5766	5660
$ Per Direct Labor Hour	$69.28	$69.36	$69.73

11. **Performance Indicators**

The primary performance indicator is Unit Cost discussed in the Unit Cost Rate paragraph above. Unit Cost (sum of direct labor and overhead cost divided by the number of direct labor hours) represents the cost of delivering goods and services. It remains relatively stable despite decreasing direct hours.

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
NUWC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	797.7	714.2	680.4
Surcharges	.0	.0	.0
Depreciation excluding Major Constructio	16.9	18.3	19.5
Other Income			
Total Income	814.5	732.5	699.8
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	2.9	2.7	2.7
Civilian Personnel	331.2	319.8	319.3
Travel and Transportation of Personnel	21.0	22.7	19.2
Material & Supplies (Internal Operations	54.1	47.6	44.9
Equipment	23.0	23.7	22.4
Other Purchases from NWCF	55.0	51.0	49.4
Transportation of Things	2.9	.7	.7
Depreciation - Capital	16.9	18.3	19.5
Printing and Reproduction	5.5	6.1	6.1
Advisory and Assistance Services	.0	.0	.0
Rent, Communication & Utilities	18.8	23.0	23.2
Other Purchased Sevices	309.0	220.5	186.3
Total Expenses	840.3	735.9	693.7
Work in Process Adjustment	-18.7	.0	.0
Comp Work for Activity Reten Adjustment	-.4	.0	.0
Cost of Goods Sold	821.2	735.9	693.7
Operating Result	-6.7	-3.4	6.2
Less Surcharges	.0	.0	.0
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	-.1	.0	.0
Net Operating Result	-6.8	-3.4	6.2
Other Changes Affecting AOR	.0	.0	.0
Accumulated Operating Result	-2.8	-6.2	.0

Exhibit Fund-14

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NUWC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	715.4	631.6	623.6
a. Orders from DoD Components	643.9	530.4	550.4
Department of the Navy	619.5	521.5	543.6
O & M, Navy	145.5	132.3	143.4
O & M, Marine Corps	.0	.4	.5
O & M, Navy Reserve	3.2	2.0	3.4
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	9.2	1.6	6.5
Weapons Procurement, Navy	53.2	55.5	61.4
Ammunition Procurement, Navy/MC	.0	.0	.0
Shipbuilding & Conversion, Navy	68.9	39.1	39.7
Other Procurement, Navy	95.4	78.2	88.5
Procurement, Marine Corps	.0	.0	.0
Family Housing, Navy/MC	.0	.0	.0
Research, Dev., Test, & Eval., Navy	243.8	212.5	200.0
Military Construction, Navy	.0	.0	.0
Other Navy Appropriations	.3	.0	.2
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	5.1	4.5	2.9
Army Operation & Maintenence	.6	.7	.6
Army Res, Dev, Test, Eval	4.5	3.8	2.2
Army Procurement	.1	.0	.0
Army Other	.0	.1	.1
Department of the Air Force	1.9	.2	.2
Air Force Operation & Maintenence	.4	.1	.1
Air Force Res, Dev, Test, Eval	.1	.1	.1
Air Force Procurement	1.4	.0	.0
Air Force Other	.0	.0	.0
DOD Appropriation Accounts	17.3	4.1	3.7
Base Closure & Realignment	6.6	.0	.0
Operation & Maintence Accounts	1.2	.4	1.0
Res, Dev, Test & Eval Accounts	8.4	3.5	2.6
Procurement Accounts	1.1	.1	.1
DOD Other	.0	.0	.0
b. Orders from NWCF Business Area	37.3	56.4	39.4
c. Total DoD	681.1	586.8	589.8
d. Other Orders	34.3	44.7	33.8
Other Federal Agencies	2.1	4.2	2.4
Foreign Military Sales	26.5	32.6	25.3
Non Federal Agencies	5.6	8.0	6.1

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NUWC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	363.7	264.6	163.7
3. Total Gross Orders	1,079.1	896.2	787.3
4. Funded Carry-Over **	264.6	163.7	87.5
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	814.4	732.5	699.8

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

FY 1999 PRESIDENT'S BUDGET
NAVY WORKING CAPITAL FUND
R&D: NAVAL UNDERSEA WARFARE CENTER
DATE: February 1998
PRICE & PROGRAM BREAKDOWN OF CHANGE IN COSTS FUND-2
(DOLLARS IN MILLIONS)

	TOTAL COST
FY 1997 Actual	**$840.264**
FY 98 in FY 1998 President's Budget	**$646.116**
Estimated impact in FY 1998 of Actual FY 1997 Experience	$4.645
Price Adjustments	
FY 1998 Pay Raise	
Civilian Personnel	($0.389)
Military Personnel	$0.074
Annualization of FY 1997 pay raise	
Civilian Personnel	$0.038
Military Personnel	($0.000)
Stock fund - fuel	($0.057)
Stock fund - non-fuel	$0.641
NWCF price changes	$0.281
General purchase inflation	($2.031)
Productivity Initiatives	
Consolidation/Efficiencies	$0.000
Savings from CPP	$0.000
Overhead Efficiencies	($8.868)
Other (specify)	$0.000
Program Changes	
Workload	($7.435)
BRAC	$0.000
Intra NUWC Transfers	$0.000
Other (specify)	$0.000
Other Changes	
Labor Repricing	$2.653
SIP/VERA/RIF	($0.009)
Retirement Fund Offset	$0.156
FECA	($0.074)
Awards	$0.154
Lump Sum Leave	($0.658)
Change in Paid Days	$0.000
Military	($0.153)
Accounting Adjustments	$4.401
IT Budget Changes	$0.455
Depreciation	($2.422)
Transfers	$0.000
Contracts	$88.670
Material	$9.706
FY 98 in FY 1999 President's Budget	**$735.894**

FY 1999 PRESIDENT'S BUDGET
NAVY WORKING CAPITAL FUND
R&D: NAVAL UNDERSEA WARFARE CENTER
DATE: February 1998
PRICE & PROGRAM BREAKDOWN OF CHANGE IN COSTS FUND-2
(DOLLARS IN MILLIONS)

FY 98 in FY 1999 President's Budget	**$735.894**
Price Adjustments	
FY 1999 Pay Raise	
Civilian Personnel	$6.498
Military Personnel	$0.142
Annualization of FY 1998 pay raise	
Civilian Personnel	$3.906
Military Personnel	$0.124
Stock fund - fuel	($0.010)
Stock fund - non-fuel	($0.588)
NWCF price changes	$0.778
General purchase inflation	$5.309
Productivity Initiatives	
Consolidation/Efficiencies	($0.849)
Savings from CPP	($14.102)
Overhead Efficiencies	($6.832)
Other (specify)	$0.000
Program Changes	
Workload	($7.923)
BRAC	$0.000
Intra NUWC Transfers	$0.000
Other (specify)	$0.000
Other Changes	
Labor Repricing	$4.470
SIP/VERA/RIF	($3.500)
Retirement Fund Offset	($0.514)
FECA	$0.000
Awards	($0.011)
Lump Sum Leave	($0.358)
Change in Paid Days	$0.000
Military	($0.214)
Accounting Adjustments	$0.009
IT Budget Changes	$0.075
Depreciation	$1.197
Transfers	($0.020)
Contracts	($27.035)
Material	($2.768)
FY 99 in FY 1999 President's Budget	**$693.679**

Working Capital Fund Capital Investment Summary
Department of the Navy
Research & Development
Naval Undersea Warfare Center
FY 1999 President's Budget
February 1998
($ in Millions)

LINE #	ITEM DESCRIPTION	FY 1997		FY 1998		FY 1999	
		QUANT	TOTAL COST	QUANT	TOTAL COST	QUANT	TOTAL COST
	1. Non ADP Equipment						
	a. Productivity (Major)						
L002	Intrusion Detection System	1	.200	1	.200	1	.200
L198	High-bandwidth Test Data Transmission	1	.700				
	Productivity Non ADP Equipment (Minor)	9	1.930	2	.770	2	.550
	b. Replacement (Major)						
	Replacement Non ADP Equipment (Minor)	4	.630	2	.330	1	.420
	c. Environmental (Major)						
L086	Transducer & Hull Array Lab Upgrade	1	.478	1	.620	1	.300
L181	SSTP Track Installation	1	.500				
L224	P-334 Collateral Equipment					1	.690
L245	Retrofit/Replacement of AC&R Equipment					1	.500
	Environmental Non ADP Equipment (Minor)	5	1.310	4	.670		
	d. New Mission (Major)						
L087	Towed and Deployed Sensor Lab Upgrade	1	.507	1	.400	1	.400
L088	Standard Submarine Radio Room Integration Facility	1	.350				
L090	Submarine Sail Measurement Platform	1	1.000	1	1.000		
L183	Littoral Undersea Warfare Complex Improvements	1	1.800				
L225	Shallow Water Syn Env Eval Facility			1	1.450	1	1.091
L226	3 Axis Motion Facility			1	.850		

EXHIBIT 9A

Working Capital Fund Capital Investment Summary
Department of the Navy
Research & Development
Naval Undersea Warfare Center
FY 1999 President's Budget
February 1998
($ in Millions)

LINE #	ITEM DESCRIPTION	FY 1997		FY 1998		FY 1999	
		QUANT	TOTAL COST	QUANT	TOTAL COST	QUANT	TOTAL COST
L246	Multistatic Active Sonar Testbed Upgrade					1	.494
	New Mission Non ADP Equipment (Minor)	3	.271			1	.200
	Total Non ADP Equipment	29	9.676	14	6.290	11	4.845
	2. ADP & Telecommunications Equipment						
	a. Other Computer & Telecommunications Support Equip (Major)						
L023	Undersea Warfare Systems Analysis Project (New Mission)	1	.649	1	.645	1	.250
L030	Replacement of Central Scientific & Engineering Computers (	1	.242	1	.071		
L061	Undersea Synthetic Environments Concept (Productivity)	1	.110	1	.215		
L097	Antenna Range Modernization (Replacement)	1	.614	1	.505	1	.450
L129	Upgrade Test Data Analysis Platforms (Productivity)	1	.500				
L130	Range Data Consolidation/Collection System (Productivity)	1	.300				
L186	Simulation Based Design (Productivity)	1	.207	1	.800	1	1.300
L187	Sub Sonar Dev. & Evaluation (Productivity)	1	.814	1	.500	1	.250
L190	Financial MIS (Productivity)	1	.330				
L191	Automated Purchasing Process (Productivity)	1	.103				
L193	Advanced Attack Center Test Bed (Productivity)	1	.414	1	.320	1	.500
L204	Data Systems Integration (Productivity)	1	.520				
L205	Centralized Real-time Data Processing Systems (Productivity)	1	.500				
L206	COTS Supportability Planning Tools (Productivity)	1	.175				
L207	RIDC Upgrade (Productivity)	1	.500				
L208	On-line Databases for Technical Test Data (Productivity)	1	.200				
L209	Depot Test Equip Software & Interface Hardware (Productivi	1	.445				
L210	COTS Obsolescence Management Tools (Productivity)	1	.150				
L211	Building Fiber Optic Cable Plants (Productivity)	1	.180				
L212	Tracking Receiver Equipment (Productivity)	1	.490				

EXHIBIT 9A

Working Capital Fund Capital Investment Summary
Department of the Navy
Research & Development
Naval Undersea Warfare Center
FY 1999 President's Budget
February 1998
($ in Millions)

LINE #	ITEM DESCRIPTION	FY 1997		FY 1998		FY 1999	
		QUANT	TOTAL COST	QUANT	TOTAL COST	QUANT	TOTAL COST
L214	Coordinate Measuring Machine Upgrade (Productivity)	1	.130				
L215	CAO/CAM/CAE (Productivity)	1	.200				
L216	Project Enterprise (Productivity)	1	.500				
L218	OMS Re-engineering Project (Productivity)	1	.500				
L219	Comp Aided Proc Plan EDI Enhance System (Productivity)	1	.300				
L227	Simulator Expansion Capability (Productivity)			1	.365		
L228	Synthetic Environmental Training Initiative (New Mission)			1	.500	1	.500
L229	Fleet Support Data Links (Productivity)			1	.900	1	.700
L231	Virtual Systems Design (New Mission)			1	1.017	1	1.335
L232	Supportability Analysis Tools (Productivity)			1	.375	1	.375
L233	Northwest Range Ancillary Tracking (Productivity)			1	1.500	1	.900
L234	Tactical Active Sonar Acoustic Database (New Mission)			1	.460	1	.281
L238	Scientific & Management Computer System Upgrade (Replacement)			1	.800	1	.983
L240	Strategic Management Information Center (New Mission)			1	.175	1	.100
L244	Electronic Key Systems (EKS) Upgrade (Replacement)	1	.335				
L247	Integrated Display Center Upgrade (Productivity)					1	.485
L248	Undersea Battlespace Facility (Productivity)					1	.615
L249	Undersea Warfare Synthetic Environment Design System (Productivity)					1	1.100
L250	WAF New Architecture (Replacement)					1	.400
L251	Telephone Switch Network Upgrade (Replacement)	1	.365				
	a. Other Computer & Telecomm Support Equip Total (Minor)			9	2.601	6	2.397
	Total ADP & Telecommunication Equipment	**27**	**9.773**	**25**	**11.749**	**23**	**12.921**

EXHIBIT 9A

Working Capital Fund Capital Investment Summary
Department of the Navy
Research & Development
Naval Undersea Warfare Center
FY 1999 President's Budget
February 1998
($ in Millions)

LINE #	ITEM DESCRIPTION	FY 1997		FY 1998		FY 1999	
		QUANT	TOTAL COST	QUANT	TOTAL COST	QUANT	TOTAL COST
	3. Software						
	a. Software (Major)						
L241	NIFMS/DIFMS - Newport Division	1	.410	1	.307	1	.158
L242	NIFMS/DIFMS - Keyport Division			1	1.002	1	.451
	b. Software (Minor)			1	.012	1	.006
	Total Software	**1**	**.410**	**3**	**1.321**	**3**	**.615**
	4. Minor Construction						
	Minor Construction (Minor)		2.755		2.070		1.850
	Total Minor Construction		**2.755**		**2.070**		**1.850**
	Grand Total Capital Purchase Program		**22.614**		**21.430**		**20.231**

EXHIBIT 9A

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L002 INTRUSION DETECTION SYSTEM (IDS)					D. Activity Identification NUWC Division, Newport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Intrusion Detection System	1	200	200	1	200	200	1	200	200

Narrative Justification:

The Intrusion Detection System (IDS) is an integrated security management system which is being installed throughout the Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT). The system is a computerized, menu driven alarm and access control monitoring system which has reduced the guard force personnel and meets the minimum physical security requirements. The system is capable of providing superior protection of restricted areas and can also be used to monitor over 2,000 alarms or environmental sensors for building management control. In addition, closed circuit televisions are included to monitor activity at strategic locations throughout the Division.

For each year of investment systems will be operational providing for an interim capability. A system expansion is planned for each year until FY 99 providing for additional electronic security surveillance of highly sensitive areas at NUWCDIVNPT. This plan for system integration in stages will allow for adequate planning to best accommodate for modified and expanding security requirements.

NUWCDIVNPT cannot attain an improved security posture and could not have made significant reductions in security costs without the IDS. This system provides improved access control, intrusion detection, surveillance and record keeping that is essential to the protection of this Navy laboratories' resources.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $1,885 thousand after 10 years. Payback is expected in .87 years, with a benefit investment ratio of 9.43. For the FY 99 investment, the economic analysis resulted in a net present value of $1,885 thousand after 10 years with payback in .87 years and a benefit investment ratio of 9.43.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)	A. Budget Submission FY99 President's Budget
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L086 TRANSDUCER & HULL ARRAY LAB UPGRADE; D. Activity Identification NUWC Division, Newport

Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Transducer & Hull Array Lab Upgrade	1	478	478	1	620	620	1	300	300

Narrative Justification:

The Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) is responsible for work under its leadership areas of submarine and surface ship sonar systems including acoustic sensors, transducers and arrays. In order for NUWCDIVNPT to maintain its transducer technology expertise to provide the most advanced, compatible, efficient, and cost effective sensors for submarine systems of the future, the existing laboratory must be updated.

Naval Undersea Warfare Center, Division Newport has the Navy's only fully integrated transducer design operation. The Transducer and Hull Array Lab is used for the design and development of transducers and arrays for future sonar systems. The operation supports theoretical modeling, design, prototyping, test and analysis of sonar transducers and arrays. The transducer design operation is "cradle-to-grave;" from basic research of materials, to prototype design and evaluation, to production and fleet support. With the rapid evolution of new computer capabilities as well as instrumentation, it is imperative that existing outdated equipment be upgraded to maintain the superior products developed for the Fleet.

Equipment purchased in previous fiscal years is operational and provides for enhanced capabilities. Following year funding provides additional upgrades primarily in the area of ceramic materials. This investment will allow NUWCDIVNPT to synthesize/characterize ceramic transduction materials. This will foster a means for testing new ideas for improving existing materials and producing novel materials. By establishing this in-house capability the Navy will benefit from increased productivity and improved quality control of materials for transducers and arrays.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $1,435 thousand after 10 years. Payback is expected in 3.65 years, with a benefit investment ratio of 2.31. For the FY 99 investment, the economic analysis resulted in a net present value of $1,403 thousand after 10 years with payback in 1.76 years and a benefit investment ratio of 4.68.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)							A. Budget Submission FY99 President's Budget		
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L224 P-334 COLLATERAL EQUIPMENT						D. Activity Identification NUWC Division, Keyport		
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
P-334 Collateral Equipment							1	690	690

Narrative Justification:

The current vibration shaker masses are not able to be relocated from their present location and reutilized in the new building. Old outdated technology required that a concrete lined pit be dug and a very large concrete filled steel tub supported by air bearings be used to isolate shaker system vibrations from the building structure. This method has been replaced by a system which floats a smaller mass at the normal floor level with little or no vibration being transmitted into the building structure. The new facility was designed with this type of system in mind. Present test control equipment and software has been in service for 15 to 20 years. The equipment is no longer supported by the manufacturer and can only be repaired by cannibalizing similar equipment that has been surveyed out.

An economic analysis was performed on this project indicating for the FY 99 investment a net present value of $2,170 thousand after 10 years. Payback is expected in 2.75 years, with a benefit investment ratio of 3.15.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L245 RETROFIT/REPLACEMENT OF AC&R EQUIPMENT					D. Activity Identification NUWC Division, Newport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Retrofit/Replacement of AC&R Equipment							1	500	500

Narrative Justification:

The Retrofit Replacement of AC&R Equipment will put Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) in compliance with Section 6-5.7 of OPNAVINST 5090.1B which states: "All shore based (non-mission critical) heating, ventilation, air conditioning and refrigeration (HVAC&R) equipment for which procurement was initiated after 14 July 1994 shall use an Environmental Protection Agency (EPA) Significant New Alternative Program (SNAP) approved refrigerant with an ozone depletion potential (ODP) of 0.05 or less. Currently installed shore based (non-mission critical) HVAC&R equipment containing Class I ODS shall be replaced or converted to an EPA SNAP approved refrigerant with an ODP of 0.05 or less by 31 December 2000."

By retrofitting/replacing NUWCDIVNPT's AC&R equipment containing Class I ODSs, NUWCDIVNPT will be eliminating Class I ODSs which are known to cause or contribute to harmful effects on the stratospheric ozone layer. This investment will include retrofitting and replacing chillers which provide air conditioning for work spaces and for controlling humidity and temperature for a multitude of computer and electronic systems in a variety of laboratories. Environmental test chambers will also be retrofitted for control of temperature and humidity which support testing of various equipment at the Division, and the HALON fire suppression systems will also be retrofitted.

If the Retrofit Replacement of AC&R Equipment project is not funded, NUWCDIVNPT will be in violation of the requirements and policies set forth in Section 6-5.7 of OPNAVINST 5090.1B and will continue to cause or contribute to harmful effects on the stratospheric ozone layer.

An economic analysis was performed on this project indicating for the FY 99 investment a net present value of $838 thousand after 10 years. Payback is expected in 5 years, with a benefit investment ratio of 1.68.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	**C. Line No. & Item Description** L087 TOWED & DEPLOYED SENSOR LAB UPGRADE					**D. Activity Identification** NUWC Division, Newport			
Elements of Cost	**FY1997**			**FY1998**			**FY1999**		
	Quant	**Unit Cost**	**Total Cost**	**Quant**	**Unit Cost**	**Total Cost**	**Quant**	**Unit Cost**	**Total Cost**
Towed & Deployed Sensor Lab Upgrade	1	507	507	1	400	400	1	400	400

Narrative Justification:

As the Navy's lead laboratory in the successful development of the first generation All Optical Towed Array (AOTA), the Towed and Deployed Sensor Lab Upgrade will expand the existing facility to support the Navy in optical array development through exploratory development efforts to advance fiber optic technology into very low cost, high channel count, small diameter arrays. This investment will also contribute to enhancement of NUWCDIVNPT's handling system facility which will enable NUWCDIVNPT as the Technical Design Agent/In-Service Engineering Agent (TDA/ISEA) for current submarine towed arrays and handling systems to solidify its role on current systems and enhance its expertise to support future handling systems for the Fleet. The facility improvements will also expand the services NUWCDIVNPT can offer the Navy to include operational training.

The development of very low cost, expendable small diameter towed array technology is essential to provide the Navy with an affordable towed array detection capability for use in littoral shallow water environments. Lack of funding for these optical facility improvements will severely restrict NUWCDIVNPT's ability to develop unique fiber optic technology having significant cost and size advantages over conventional array technology.

In addition, the integration of towed arrays and handling systems is required to provide the Fleet with the performance and reliability mandated under submarine superiority. Lack of funding for these handling facility improvements will severely restrict NUWCDIVNPT's ability to establish a leadership position in future handling system developments for the Navy. Lack of investment will also restrict NUWCDIVNPT in providing engineering and training services to the Fleet on existing handling systems.

The incremental upgrades made during each fiscal year have and will provide for continuously improved capabilities in support of optical array systems development for thin-line and multi-line towed arrays. Investments also include expansion of the towed array handling system equipment resulting in consolidation and improved engineering, test and training for the Fleet. Each stage of this project will enhance the capabilities for acoustic array research and development with a fully integrated laboratory to be realized in FY 02.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $4,045 thousand after 10 years. Payback is expected in .81 years, with a benefit investment ratio of 10.11. For the FY 99 investment, the economic analysis resulted in a net present value of $4,045 thousand after 10 years with payback in .81 years and a benefit investment ratio of 10.11.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. Budget Submission
FY99 President's Budget

B. Component/Business Area/Date
NUWC/R&D/February 1998

C. Line No. & Item Description
L090 SUBMARINE SAIL MEASUREMENT PLATFORM

D. Activity Identification
NUWC Division, Newport

Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Submarine Sail Measurement Platform	1	1,000	1,000	1	1,000	1,000			

Narrative Justification:
The Submarine Electromagnetic Systems Department at the Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) is developing the Submarine Sail Measurement Platform to provide the capability to assess the radar signature of submarine periscopes, masts and sensors. This facility allows the radar signature of these targets to be characterized in an operational environment without the need of conducting sea tests. This facility will utilize the Submarine Sensor Test Platform (SSTP), which has been installed at the Fishers Island test site, to position and control the targets during tests.

This Radar Cross Section (RCS) measurement capability will allow for the development of new stealth sensors which will provide for more effective submarine platform connectivity and surveillance capability with reduced vulnerability in littoral waters. If this project is not fully funded, the Navy will not have a facility to evaluate the overwater radar signature of existing and new sensors without conducting sea tests at a significantly greater cost to the Navy.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $13,973 thousand after 10 years. Payback is expected in .58 years, with a benefit investment ratio of 13.97.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)									
A. Budget Submission: FY99 President's Budget									
B. Component/Business Area/Date: NUWC/R&D/February 1998	C. Line No. & Item Description: L225 SHALLOW WATER SYNTHETIC ENVIRONMENT EVALUATION FACILITY						D. Activity Identification: NUWC Division, Newport		
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Shallow Water Syn Env Eval Facility				1	1,450	1,450	1	1,091	1,091

Narrative Justification:

The Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) is responsible for the Research, Development, Test and Evaluation (RDT&E) of submarine and surface ship systems. The Shallow Water Synthetic Environment Evaluation Facility project is composed of systems to test and evaluate weapons, Unmanned Undersea Vehicles (UUV), and sonar in a synthetic shallow water environment in combination with a variety of virtual systems.

The RDT&E of submarine and surface ship systems requires in-water tests in shallow water. Due to reductions in funding, in-water testing in shallow water has been significantly reduced due to the cost associated with conducting in-water exercises. Over the past several years, although there has been a significant decrease in the number of in-water evaluations, there has been an even greater need to Test and Evaluate (T&E) systems in a multitude of shallow water environment against various threat targets. In order to maintain the necessary levels of T&E in shallow water, but with less funding, more and more emphasis is being placed on utilization of synthetic environments and simulated systems. The Shallow Water Synthetic Environment Evaluation Facility will provide the synthetic environment and virtual systems required to support the T&E of sonar, weapons, and UUVs in a synthetic shallow water environment which would otherwise not be performed.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $27,600 thousand after 10 years. Payback is expected in .43 years, with a benefit investment ratio of 19.03. For the FY 99 investment, the economic analysis resulted in a net present value of $17,793 thousand after 10 years with payback in .50 years and a benefit investment ratio of 16.31.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. Budget Submission FY99 President's Budget
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L226 3-AXIS MOTION FACILITY	D. Activity Identification NUWC Division, Newport

Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
3-Axis Motion Facility				1	850	850			

Narrative Justification:

A facility for evaluating performance of submarine systems under various dynamic conditions is essential to the Research, Development ,Test and Evaluation (RDT&E) efforts of the Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT). The 3-Axis Motion Facility will establish a means of evaluating the physical performance of systems in a simulated environment prior to acceptance of new systems and modifications to existing systems. By utilizing simulated testing, cost savings will be realized due to a reduction in at-sea testing and support of rapid prototyping. As the Technical Design Agent (TDA) for various submarine systems, NUWCDIVNPT is responsible for testing rapid prototype systems, such as submarine mast mounted sensors. One of the key performance areas to be evaluated is system accuracy and control when subjected to at-sea dynamic conditions experienced at periscope depth or on the surface at various sea states. This facility would provide the capability to assess the performance under simulated dynamic conditions. A 3-Axis Motion Facility will provide a unique capability for testing submarine systems including communications and intelligence sensors. True at-sea conditions can be simulated and accurate at-sea performance of submarine systems or proposed system modification can be assessed.

NUWCDIVNPT will not adequately be able to assess true at-sea dynamic performance of submarine systems for the Navy if this facility is not funded. The only alternative would be less accurate, more costly at-sea testing. Sponsors are looking to NUWCDIVNPT to provide technical expertise in the area of submarine unique equipment design, development and installation. A standard method and facility for evaluating performance of such systems does not exist. The area of antenna/sensor pointing and control under dynamic conditions is just one key area for evaluation of submarine communications/ESM system performance under at-sea dynamic conditions to enable the development of quality products and equipment upgrades for the Fleet. If NUWCDIVNPT does not develop a motion simulation capability sponsors requirements will not be met.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $2,346 thousand after 10 years. Payback is expected in 3.04 years, with a benefit investment ratio of 2.76.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L246 MULTISTATIC ACTIVE SONAR TESTBED UPGRADE (MAST)					D. Activity Identification NUWC Division, Newport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Multistatic Active Sonar Testbed Upgrade							1	494	494

Narrative Justification:

The Multistatic Active Sonar Testbed will provide Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) with a single active sonar processing architecture that is capable of processing acoustic data from a wide variety of active receive sensor systems and transmit waveforms used in Fleet systems. This will enable the Navy to reduce the investment required to redevelop active sonar processing systems for each new receive sensor system being developed. It will also facilitate a more rapid transition of advanced development algorithms into Fleet sonar systems by providing a consistent set of software interfaces to which sonar algorithm developers can program. By providing the capability to process archives of recorded acoustic data, the Multistatic Active Sonar Testbed will enable sonar algorithm developers to more quickly perform quantitative performance evaluations of proposed new algorithms without the expense of unnecessary sea tests. Where sea tests are necessary to evaluate new transmit waveforms or new receive sensors, the Multistatic Active Sonar Testbed will provide a COTS-based, rack-mountable processor that can be quickly installed and removed. Finally, by reducing the expense and time required to implement, evaluate, and demonstrate at sea active sonar processing algorithms, this project will enable NUWCDIVNPT to maintain it's expertise for the Navy in the sonar arena as it works to resolve emergent Fleet requirements and support the development of next generation surface and submarine sonar systems.

If the Multistatic Active Sonar Testbed is not funded, active sonar processing architectures will continue to be developed as point solutions to the specific requirements of each new program that is funded. Advanced algorithm developers will not be able to quickly conduct quantitative performance evaluations of their new algorithms, since they will find it necessary to develop ways to convert existing acoustic recorded data to the data formats and software structures of their particular algorithm implementation and processing hardware. The additional delays and expense of continuing advanced sonar algorithm development and implementation in this manner will cost the Navy more for the Research, Development, Test and Evaluation of sonar systems and will delay the implementation of solutions to meet emerging Fleet needs.

An economic analysis was performed on this project indicating for the FY 99 investment a net present value of $6,986 thousand after 10 years. Payback is expected in .58 years, with a benefit investment ratio of 14.14.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L023 UNDERSEA WARFARE SYSTEMS ANALYSIS PROJECT (UWSAP)					D. Activity Identification NUWC Division, Newport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Undersea Warfare Systems Analysis Project	1	649	649	1	645	645	1	250	250

Narrative Justification:

Due to the rapidly changing world which has dramatically changed the nature of the threat and the types of conflicts for the Navy, system acquisition and technology investment decision must be carefully assessed in terms of these changes as well as in declining assets, the complex contribution of coordinated joint assets, and the commitment to maintain technological superiority. The Defense Planning Guidance states that we will use newly available simulation technologies continuously through the systems acquisition process to evaluate how system prototypes meet these criteria and contribute across warfare areas.

The Undersea Warfare Systems Analysis Project (UWSAP) provides Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) and the Navy with this simulation capability. The UWSAP provides an integrated modeling capability which has proven critical in past years to the Navy's investment strategy decisions. The UWSAP computing capabilities provide the means to identify overall Navy platform and systems shortfalls/needs in the context of current and projected warfare capabilities and to most effectively focus future investment decisions. It provides a unique capability to examine synergistic and conflicting interactions of total combat system/mission environment from a complete warfare engagement perspective. This capability has and should continue to prove to be an increasingly greater asset as overall submarine resources diminish, requiring an increased need for the assessment of the most cost effective warfighting payoffs.

This project gives NUWCDIVNPT the ability to identify appropriate technical performance goals for proposed systems such as the next generation weapon; support platform mission and force level performance assessments; demonstrate criticality of undersea warfare in joint operations exploiting Distributed Interactive Simulation (DIS); provide a means to undertake the initial evaluation of virtual prototypes as well as the development of tactical doctrine in a synthetic environment; and contribute to evolving capabilities such as in-stride training by the addition of high fidelity constructive simulations to virtual simulations.

In order to develop new applications consistent with Navy high level architecture and other emerging standards, state-of-the-art technology must be

obtained and obsolete systems must be replaced. The computer related hardware and software obtained through this project will provide enhanced synthetic environment and virtual reality displays, expand computational throughput for monte carlo simulations, and connect with other computer simulations, land-based trainers/simulators and live forces via the Defense Simulation Internet (DSI) and other networks.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $988 thousand after 5 years. Payback is expected in 3.15 years, with a benefit investment ratio of 1.53. For the FY 99 investment, the economic analysis resulted in a net present value of 949 thousand after 5 years with payback in 1.22 years and a benefit investment ratio of 3.79.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. Budget Submission FY99 President's Budget
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L030 REPLACEMENT OF CENTRAL SCIENTIFIC AND ENGINEERING COMPUTERS	D. Activity Identification NUWC Division, Newport

Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Replace Central Scientific & Eng Computers			242			71			

Narrative Justification:

The Computer and Information Services Department of the Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) provides central scientific and engineering computational services for the Newport laboratories. This is the fifth year of a five year project to replace the Central Scientific and Engineering computers and peripherals. This project will provide the NUWCDIVNPT with central scientific and engineering computational services. Replacement of the obsolete computer equipment will provide the Division with more reliable and cost effective computer resources, as well as ensuring that the Division can provide adequate computational resources to meet the research and development computational requirements of its scientific and engineering community.

In FY 96, the current general purpose scientific and engineering computers had an average installed age of 11 years. This placed the equipment past its anticipated 8-10 year life cycle. As the equipment ages, system reliability will decrease, system maintenance costs will increase, and system software will have reduced compatibility as newer versions fail to operate on the older equipment. Historically equipment maintenance costs increase rapidly during the final phases of the life cycle.

The final investment for this project will replace outdated computer storage technology with state-of-the-art technology which is compatible with the new VAX processors. This equipment will also increase reliability and productivity, be capable of supporting anticipated Division-wide real-time Management Information Systems (MIS) applications using an open system environment, and reduce maintenance costs.

If this project is not funded it will leave scientists and engineers with obsolete storage devices which have limited storage capacity and input/output throughput. In addition, new MIS initiatives will not be able to be supported such as the Executive Information System (EIS) and maintenance costs for the old equipment will be much higher than the cost of the new equipment.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $178 thousand after 5 years. Payback is expected in 1.87 years, with a benefit investment ratio of 2.51.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L061 UNDERSEA SYNTHETIC ENVIRONMENTS CONCEPT (USECEF)					D. Activity Identification NUWC Division, Newport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Undersea Synthetic Environment Concept	1	110	110	1	215	215			

Narrative Justification:

The Undersea Synthetic Environment Concept Evaluation Facility (USECEF) will serve critical submarine concept and technology demonstration and evaluation functions at the Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT). USECEF will provide modeling, simulation, recording and analysis capabilities for use within the Warfare System Presentation Facility (WSPF) to explore advanced technology submarine tactical systems and control room concepts and operations. USECEF will serve as a NUWCDIVNPT's focal point for advanced submarine combat control systems studies in human factors, operability, performance, evaluation and attack center configurations. This hardware testbed provides a state-of-the-art facility for rapid prototyping and dynamic evolution of innovative algorithms, information displays and operational concepts related to submarine attack center functions and advanced undersea warfare systems.

The complexity and integrated nature of undersea warfare systems demand prototyping and evaluation in order to validate concepts of operation, physical arrangements, functional partitioning, watch section manning, and hardware and software technology performance related to the combat control room. The USECEF will provide a full-scale control room simulation environment and assessment capability to perform this type of work. This allows for realistic platform and environmental context to provide a simulated control room within which undersea warfare technologies in the areas of weapons, sensors, communications, automation and operational concepts can be integrated, evaluated, and demonstrated. This total warfare system approach leverages interdepartmental collaboration and provides the required platform level vision.

If not funded, NUWCDIVNPT's role in engineering and demonstrating critical undersea warfare systems in relation to combat control room operations for the Navy's future submarines will be severely limited.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $202 thousand after 5 years.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. Budget Submission
FY99 President's Budget

B. Component/Business Area/Date
NUWC/R&D/February 1998

C. Line No. & Item Description
L097 ANTENNA RANGE MODERNIZATION

D. Activity Identification
NUWC Division, Newport

Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Antenna Range Modernization	1	614	614	1	505	505	1	450	450

Narrative Justification:

The Antenna Range Modernization project will provide the Submarine Electromagnetic Systems Department at the Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) with state-of-the-art equipment for conducting Research, Development, Test and Evaluation (RDT&E) for current and future submarine communication systems. The existing antenna range provides measurement capabilities including both free-space and seawater environments to support submarine antenna developments for the Navy. The modernization of this range over several years will provide improved measurement capability, accuracy, speed, system sensitivity, frequency coverage and hardware reliability; thereby enabling NUWCDIVNPT to maintain its high standards of RDT&E for the design and development of submarine communication systems of the future.

Investments over the next few years will be directed at upgrades to obsolete equipment and the addition of new capabilities to the antenna ranges. System reliability and performance will be increased by replacing antiquated equipment with new equipment. The ability to test antennas over an increased portion of the frequency spectrum required to support new submarine communication development will also be an improved capability. The Fleet will benefit by having measurement facilities capable of performing tests which currently cannot be conducted. Also, the reduced down time and repair costs as a result of this investment will enhance the performance of the antenna range for the customer. Overall, the Navy will benefit from the savings during the design and test cycle of antenna systems by having fast and accurate measurements performed.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $1,321 thousand after 5 years. Payback is expected in 1.79 years, with a benefit investment ratio of 2.62. For the FY 99 investment, the economic analysis resulted in a net present value of $1,315 thousand after 5 years with payback in 1.60 years and a benefit investment ratio of 2.92.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L186 SIMULATION BASED DESIGN (SBD)					D. Activity Identification NUWC Division, Newport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Simulation Based Design	1	207	207	1	800	800	1	1,300	1,300

Narrative Justification:

The Simulation Based Design (SBD) project will provide the optimum architecture to support the Navy-wide mandate for enhanced modeling and simulation capabilities. The Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) will enhance its systems design and development efforts through SBD. The capabilities which will be achieved by this project include the standardization and centralization of SBD multi-tasking to improve product development with minimal labor costs. It will also standardize design parameters to optimize performance of submarine systems. SBD will also ensure NUWCDIVNPT's has the capability to stay current with the latest simulation technology needed to meet increasing demands for new applications by providing higher fidelity and increased speed.

The capabilities which will be achieved by this project will accelerate the design process and assist with identification of optimum solutions. Initially this project will standardize input/output generation of SBD tools for submarine weapon systems and Unmanned Undersea Vehicles (UUVs) with integrated menu-driven graphical user interface of pre/post-processing. The standardization and centralization of SBD multi-tasking will improve product development and minimize in-house labor. The SBD will combine tools for analysis of fluids, structures, acoustics, trajectory, and systems performance in order to optimize and standardize submarine weapon system and UUV design and development. The SBD system will allow the integration and standardization of design ideas across the NUWCDIVNPT mission areas. This includes torpedoes, UUVs, sonar, combat control, communications and launchers.

A SDB capability will be achieved through a phased approach initially in the weapons, UUV, and counter measure systems. Eventually, SBD will be applied in a comprehensive total submarine system approach. Following each phase of the project, a SBD capability will be achieved, with an enhanced design proficiency achieved for various submarine systems in each fiscal year.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $12,987 thousand after 5 years. Payback is expected in .28 years, with a benefit investment ratio of 16.23. For the FY 99 investment, the economic analysis resulted in a net present value of $13,037 thousand after 5 years with payback in .45 years and a benefit investment ratio of 10.03.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. Budget Submission FY99 President's Budget
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L187 SUBMARINE SONAR DEVELOPMENT & EVALUATION COMPLEX (SSDEC)	D. Activity Identification NUWC Division, Newport

Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Sub Sonar Development & Evaluation	1	814	814	1	500	500	1	250	250

Narrative Justification:

The Submarine Sonar Development and Evaluation Complex (SSDEC) is a combination of the Submarine Sonar Department's sonar simulation, stimulation, research, development, processing, and human interface technology laboratories at Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT). On a secure network, SSDEC provides a cost effective capability to support acoustic undersea warfare research, acquisition, Test & Evaluation (T&E), analysis, wargaming, and training. SSDEC facilities provide support to all sponsors of tactical submarine sonar systems. SSDEC strives to provide efficient, cross program synergy for submarine sonar systems engineering by maximizing sharing of resources and expertise across projects. SSDEC facilities are responsible for developing the innovative solutions to the current acoustic superiority problems and rapidly delivering the new capabilities to the Fleet.

Through past investments in these sonar facilities, the SSDEC has been successful in maintaining a leadership role for submarine sonar processing Research and Development (R&D), T&E and Simulation/Stimulation (SIM/STIM). In order to remain the technology leader for the Navy, SSDEC invests in new technology that is both compatible with Fleet systems and can be used across the various sonar projects. In the identification of the future needs of our sponsors and Fleet in submarine sonar processing, the focus has turned from special designed equipment to common software and Commercial-Off-The-Shelf (COTS) equipment. NAVSEA has identified a COTS based system that will be delivered to the Fleet, and as a result the SSDEC facilities will require the ability to conduct advanced sonar development and engineering on a compatible system, such that our sonar products can be delivered directly to the Fleet without any modifications or special interfaces. A phased approach has been implemented to purchase the COTS hardware in order to begin development in a timely manner to meet Fleet requirements. Over a period of the next several years an Acoustic Rapid COTS Insertion (A-RCI) processor and Advanced Development Prototype/Test Bed using Multipurpose Processing (MPP) hardware will be purchased for SSDEC. Having this Fleet equivalent system in a unique laboratory environment will provide valuable development, test, debug, and verification opportunities to support all current and projected submarine tactical systems engineering needs while ensuring products require minimal testing/rework. This will result in increased value to our customers by streamlining the transition process for rapidly delivering new

technologies to the Fleet. Without CPP funding, SSDEC facilities will not be able to most effectively develop the innovative solutions to the current acoustic superiority problems and it will delay the ability of NUWCDIVNPT to rapidly deliver the new sonar capabilities to the Fleet.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $1,974 thousand after 5 years. Payback is expected in 1.17 years, with a benefit investment ratio of 3.95. For the FY 99 investment, the economic analysis resulted in a net present value of $1,949 thousand after 5 years with payback in .59 years and a benefit investment ratio of 7.79.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L193 ADVANCED ATTACK CENTER TESTBED (ACCT)					D. Activity Identification NUWC Division, Newport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Advanced Attack Center Testbed	1	414	414	1	320	320	1	500	500

Narrative Justification:

The Naval Undersea Warfare Center (NUWC) Division, Newport is responsible for research, development, test and evaluation of submarine combat systems. The ongoing evolution of submarine platforms, driven by changes in technology and mission, influence attack center size, layout, automation and staffing. The Advanced Command Center Testbed (ACCT) will act as focus for high risk/high pay-off concepts, technologies, and products by providing a full-scale environment in which to integrate, demonstrate and evaluate advanced concepts and technologies. The ACCT will support the transition from existing to advanced next-generation submarine combat system and platform designs.

By integrating and demonstrating advanced technology-based concepts of operation which leverage high-risk hardware, software, display, communication, and automation technologies, the ACCT will serve as the place to create a vision of the future that can serve to support and validate long-term system evolution goals for submarine attack centers. It will also serve as a test capability for advanced technology demonstration efforts. This will reduce future transition risks and costs while ensuring that program decision makers and engineers share a common vision of long-term next-generation system upgrades and capabilities.

The Navy must have a state-of-the-art, next-generation submarine control room with an appropriate underlying architecture and resource set. Without this type of Command, Control, Communications and Intelligence testbed, NUWCDIVNPT and hence the Navy will not be optimally equipped for the advanced concept and systems work required to evaluate and transition advanced combat systems technologies to the Fleet.

During each phase of the project, systems will be operational providing an interim capability until the system is fully integrated in FY 00. Initial development will be followed by required improvements which reflect the changing technology, advanced concept designs and operational requirements.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $2,978 thousand after 5 years.

Payback is expected in .49 years, with a benefit investment ratio of 9.31. For the FY 99 investment, the economic analysis resulted in a net present value of $2,996 thousand after 5 years with payback in .76 years and a benefit investment ratio of 5.99.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L227 SIMULATOR EXPANSION CAPABILITY					D. Activity Identification NUWC Division, Newport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Simulator Expansion Capability				1	365	365			

Narrative Justification:

This project will expand the simulation capabilities of Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) Weapons Analysis Facility (WAF) to handle a broader variety of entities for both existing and anticipated undersea systems, side scan sonar operations, UUVs, exploitation of foreign weapons, training, Distributed Interactive Simulation (DIS), and more complex environments. This project will provide the necessary facility expansion and functionality needed to support a broader based simulation complex in support of Modeling and Simulation (M&S) tasks over the next several years. Benefits are derived from leveraging substantially lower simulation costs for research and development versus costly fleet services of in-water testing.

The enhanced capabilities gained will provide improvements which reflect changing synthetic environment technology and advanced processing. If this project is not funded, it would be increasingly difficult to optimize both weapon capability in the weapon acquisition decision process and Fleet personnel training due to escalated costs associated with utilizing traditional engineering development practices to maintain undersea superiority.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $3,429 thousand after 5 years. Payback is expected in .49 years, with a benefit investment ratio of 9.39.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. Budget Submission
FY99 President's Budget

B. Component/Business Area/Date
NUWC/R&D/February 1998

C. Line No. & Item Description
L228 SYNTHETIC ENVIRONMENTAL TRAINING INITIATIVE (SETI)

D. Activity Identification
NUWC Division, Newport

Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Synthetic Environmental Traing Initiative				1	500	500	1	500	500

Narrative Justification:

The Synthetic Environmental Training Initiative (SETI) project was initiated by the Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT), to establish the systems, capabilities, and processes to provide Fleet access to and utilization of NUWCDIVNPT's Modeling and Simulation (M&S) technology to advance In-Stride Fleet training. This initiative will introduce technology to facilitate training, reduce the cost of training, and/or increase the value of training through synthetic torpedoes, synthetic targets, and integration of on-board trainers with external environments.

As a first step towards meeting the SETI project goals, SETI will initially connect submarines at existing underwater tracking ranges with the Weapons Analysis Facility (WAF) using a communications link to enable the firing of Virtual Torpedoes (VIRTORPs). Follow-on efforts will include linking LAMPS Mk-III helicopters operating on range with the WAF as well as the Naval Air Warfare Test Center (NAWC) Aircraft Division's Ship Ground Station (SGS) to expand the effectiveness of air Anti-Submarine Warfare (ASW) training. In addition, expanded capabilities will include linking with other submarine system simulation facilities at NUWCDIVNPT.

SETI will enable the real-time interaction of high fidelity hardware-in-the-loop torpedo simulations with operational SSNs and ASW aircraft on at sea ranges. The benefits of providing this capability include unlimited availability of virtual torpedoes to augment exercise torpedo firings, the availability of high confidence torpedo hit or miss assessments, realistic evasion maneuvers of the target platform (including release of countermeasures) and the use of weapons in ASW training exercises without peacetime safety restrictions and their associated artificialities.

Due to a continuing decline in exercise torpedo firings, Fleet readiness could soon be threatened if alternative torpedo exercise firing opportunities are not provided. SETI offers the only alternative to exercise torpedo firings against submarines operating at depth and speed in both deep water as well as littoral waters. This will improve the Fleet's ability to remain ASW ready during a period of significant decline in funding for training and readiness and will also provide additional weapon and submarine systems performance data to support system development, test and evaluation.

Failure to implement this capability will negatively impact Fleet training and readiness and will result in a reduction in the test and evaluation of weapon and submarine systems.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $3,902 thousand after 5 years. Payback is expected in .58 years, with a benefit investment ratio of 7.80. For the FY 99 investment, the economic analysis resulted in a net present value of $3,902 thousand after 5 years with payback in .58 years and a benefit investment ratio of 7.80.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L229 FLEET SUPPORT DATA LINKS						D. Activity Identification NUWC Division, Keyport		
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Fleet Support Data Links				1	900	900	1	700	700

Narrative Justification:

Implement Fleet tactical data links, portable satellite communications and sonobuoy communications to establish range connectivity with fleet platforms operating at PACNORWEST range sites. Integrate PACNORWEST range data and Fleet tactical data with existing T & E analysis processes. Enable an environment for real time test and training interaction by Fleet participants on PACNORWEST ranges. Provide connectivity between the Fleet and the T & E center using a combination of existing Fleet technology and COTS data links.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $1,779 thousand after 5 years. Payback is expected in 2.40 years, with a benefit investment ratio of 1.98. For the FY 99 investment, the economic analysis resulted in a net present value of $1,624 thousand after 5 years with payback in 2.03 years and a benefit investment ratio of 2.32.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION
(Dollars in Thousands)

A. Budget Submission
FY99 President's Budget

B. Component/Business Area/Date
NUWC/R&D/February 1998

C. Line No. & Item Description
L231 VIRTUAL SYSTEMS DESIGN (VSD)

D. Activity Identification
NUWC Division, Newport

Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Virtual Systems Design				1	1.017	1,017	1	1,335	1,335

Narrative Justification:

As the Navy continues to deal with reduced budgets, more and more emphasis is being placed on our Modeling and Simulation (M&S) capabilities. In order to provide a more cost effective, inter-operable, value-added M&S suite for submarine systems, weapon systems, and Unmanned Undersea Vehicles (UUVs), the Virtual Systems Design (VSD) project will integrate capabilities that exist within the departments of the Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT). The NUWCDIVNPT will enhance its systems Research, Development, Test and Evaluation (RDT&E) capabilities by implementing VSD which will support the recent Navy-wide mandate for enhanced M&S.

The capabilities which will be achieved by this project will facilitate reduced acquisition and ownership costs, support an even greater degree of the "model-test-model-build" concept, and expand the M&S within the training and assessment areas. The VSD will combine tools for analysis in order to optimize and standardize submarine and weapon system RDT&E. The VSD will allow the integration and standardization of M&S across the NUWCDIVNPT mission areas. In addition, the systems will be developed with data interface considerations for connectivity not only within the Division, but also to other Navy, DOD, academic, and industry facilities.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $5,823 thousand after 5 years. Payback is expected in .80 years, with a benefit investment ratio of 5.73. For the FY 99 investment, the economic analysis resulted in a net present value of $15,960 thousand after 5 years with payback in .38 years and a benefit investment ratio of 11.95.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L232 SUPPORTABILITY ANALYSIS TOOLS					D. Activity Identification NUWC Division, Keyport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Supportability Analysis Tools				1	375	375	1	375	375

Narrative Justification:

This initiative provides for a SATCOM base system to interface directly with the SATCOM system used by the Fleet Battlegroup ships. The system will allow for direct secured pre-exercise and post exercise briefs to be conducted while the ship is underway. Additional capability includes video feeds to Fleet shore-side personnel through fiber optic infrastructures. The SATCOM system will also provide distance learning downlinks for personnel resource development.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $729 thousand after 5 years. Payback is expected in 2.92 years, with a benefit investment ratio of 1.95. For the FY 99 investment, the economic analysis resulted in a net present value of $783 thousand after 5 years with payback in 2.79 years and a benefit investment ratio of 2.09.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L233 NORTHWEST RANGE ANCILLARY TRACKING					D. Activity Identification NUWC Division, Keyport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Northwest Range Ancillary Tracking				1	1,500	1,500	1	900	900

Narrative Justification:

Procure ancillary range tracking systems that allow augmentation of the existing PACNORWEST Range Sites on short notice. These ancillary range tracking systems will incorporate the features of both sub-surface and surface/air tracking as well as communications and data transmission. There is an emerging requirement for increased tracking area driven by increased Fleet presence (surface and air) in the PACNORWEST. Augmentation of existing ranges using previously prepared ancillary tracking systems provides an affordable and efficient way to support this additional requirement.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $3,799 thousand after 5 years. Payback is expected in 1.85 years, with a benefit investment ratio of 2.53. For the FY 99 investment, the economic analysis resulted in a net present value of $2,388 thousand after 5 years with payback in 1.76 years and a benefit investment ratio of 2.65.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L234 TACTICAL ACTIVE SONAR ACOUSTIC DATABASE (TASAD)						D. Activity Identification NUWC Division, Newport		
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Tactical Active Sonar Acoustic Database				1	460	460	1	281	281

Narrative Justification:

This project will expand Naval Undersea Warfare Center, Division Newport's (NUWCDIVNPT) initiative in the reuse of existing data resources for 6.2, 6.3 and 6.4 Research, Development, Test and Evaluation (RDT&E) programs by ensuring continued rapid programmatic access to the complete suite of active sonar measurements via utilization of a state-of-the-art database computational facility.

Due to increased reuse of existing data resources for RDT&E efforts, funding required from sponsors will be decreased. In addition, this capability will increase NUWCDIVNPT's potential funding base through requests for data acquisition and retrieval. Benefits to the Navy include decreased sonar system RDT&E costs through utilization of existing data measurements vice conducting at-sea trials.

Without the ability to store and access active sonar measurements, the loss of the data resources will result in increased RDT&E costs which translate into increased demands on funding sponsors. This also leads to duplication of data collection efforts, increased costs due to acquisition of data from outside agencies and lack of information about the conditions of the data measurements. In addition, the loss of a potential funding sources would also result.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $8,155 thousand after 5 years. Payback is expected in .26 years, with a benefit investment ratio of 17.73. For the FY 99 investment, the economic analysis resulted in a net present value of $8,137 thousand after 5 years with payback in .16 years and a benefit investment ratio of 28.96.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L238 SCIENTIFIC & MANAGEMENT COMPUTER SYSTEM UPGRADE						D. Activity Identification NUWC Division, Newport		
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Scientific & Mgmt Computer System Upgrade				1	800	800	1	983	983

Narrative Justification:

In order to provide the necessary scientific and management computer system resources at the Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT), adequate systems must be acquired to meet both the Research, Development, Test and Evaluation (RDT&E) as well as the business resource needs. The average age of existing computer equipment is 12 years and has resulted in decreased system reliability, increased maintenance cost, decreased efficiency due to an increase in down time, and hardware/software incompatibilities. In addition the need for computational and visualization systems to support Modeling and Simulation (M&S) efforts as well as management decision processes is ever increasing.

As the technical and management sectors of NUWCDIVNPT continue to communicate more and more electronically, upgraded computer and display systems are required to provide sufficient electronic communications capability within the Division as well as externally to a multitude of individuals and organizations. The scientific and management computer resources are also essential in order to meet the electronic protocol established with sponsors, contractors, and academia to transmit, receive and display data electronically.

Replacement of the obsolete computer equipment and the addition of visualization capabilities will provide NUWCDIVNPT with more reliable and cost effective resources which will ensure that the technical and business areas have the capabilities to meet their requirements. Increased reliability will reduce maintenance cost, increase overall efficiency, and enhance compatibility internally and externally to the organization If the equipment is not acquired, the Division can expect to incur loss of personnel productivity, decreased customer satisfaction, rapidly escalating maintenance costs, reduced services to the technical and business community, and technical obsolescence. Consequently, NUWCDIVNPT will be unable to provide the necessary corporate computer resources necessary to meet the current and future computational and display requirements of the RDT&E and business population.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $3,211 thousand after 5 years.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L240 STRATEGIC MANAGEMENT INFORMATION CENTER (SMIC)						D. Activity Identification NUWC Division, Newport		
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Strategic Management Information Center				1	175	175	1	100	100

Narrative Justification:

The changing Department of Defense (DOD) fiscal environment has forced changes in operation of the facilities that support DOD activities. The need for Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) to better manage funds, workforce, and information (both technological and financial) is crucial to remaining a strong force in the Navy Research and Development (R&D) world. To address these management issues, NUWCDIVNPT has outlined in its strategic goals the need to focus on responding to customer needs with quality products and services, and on improving business management with well-defined performance measures and maintenance of a skilled work force. Implementation of these strategic goals requires a coordinated effort throughout NUWCDIVNPT to optimize effectiveness. Such a coordinated effort establishes the need to create and maintain a center that provides access to information and facilitates structured, organized decision-making.

The Strategic Management Information Center (SMIC) was created to enable NUWCDIVNPT management to conduct its strategic planning in an environment providing on-line electronic access to key business and technical information. The goal of such an environment is to provide a user-friendly, single-site resource which supports management efforts for both short-term reporting requirements and long-term strategic planning. SMIC activities include data scans of information which provide insight into activities external to NUWCDIVNPT such as regulatory, market, and resource development. They also provide insight into technological advances and programmatic activities internal to NUWCDIVNPT. Synthesizing these massive amounts of data with the equally massive amounts of internal business operations data (associated with budget and personnel activities), requires a structured information processing scheme. Once the data is collected, a forum is needed to disseminate the information to the appropriate parties for planning and decision-making. The SMIC is designed to access this data and utilize an electronic decision support process to conduct structured strategic planning sessions.

The net result is that the SMIC provides the equipment and facilities to accommodate better planning, provide faster response to the customer, and promote inter-department connectivity. This will greatly enhance NUWCDIVNPT's implementation of its strategic goals and expedite the

operational improvements necessary to stay competitive in the changing Navy R&D environment.

An economic analysis was performed on this project indicating for the FY 98 investment a net present value of $306 thousand after 5 years. Payback is expected in 2.73 years, with a benefit investment ratio of 1.75. For the FY 99 investment, the economic analysis resulted in a net present value of $298 thousand after 5 years with payback in 1.56 years and a benefit investment ratio of 2.98.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)							A. Budget Submission FY99 President's Budget		
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L247 INTEGRATED DISPLAY CENTER UPGRADE						D. Activity Identification NUWC Division, Newport		
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Integrated Display Center							1	485	485

Narrative Justification:

The Integrated Display Center will be a unique facility which supports Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) simulation display requirements as well as management functions. This center will be a multi-use facility that will provide world-class visualization capabilities for review of at sea and virtual system test and evaluations as well as support various management decision processes.

This capability will help NUWCDIVNPT and the Navy by linking NUWCDIVNPT to the Fleet test and training community with live, visual capabilities thus allowing warfighters to evaluate next generation undersea warfare systems such as torpedoes, sonar, and combat control early in the lifecycle; thereby reducing training, test, evaluation, and acquisition costs. The technology employed by the display center will be a significant contributor to enhancement of NUWCDIVNPT's modeling and simulation (M&S) efforts as well as offer a state-of-the-art facility to support various technical working groups, program reviews with sponsors, and forums with industry and academia.

An economic analysis was performed on this project indicating for the FY 99 investment a net present value of $2,197 thousand after 5 years. Payback is expected in 1.02 years, with a benefit investment ratio of 4.53.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L248 UNDERSEA BATTLESPACE FACILITY (USB)					D. Activity Identification NUWC Division, Newport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Undersea Battlespace Facility							1	615	615

Narrative Justification:

The Undersea Battlespace (USB) Facility will provide a cohesively, integrated undersea warfare environment for the design and development of Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) products including weapons, combat systems, and sensors. The USB Facility design will leverage from and expand upon existing modeling and simulation (M&S) capabilities by integrating live range facilities and participants with various Division simulation resources. The USB Facility will promote connectivity of NUWCDIVNPT modeling, simulation, and range facilities internally and externally. The facility will also function as a management and coordination resource for M&S development with live range integration.

The USB Facility will provide an integrated world-class test bed and development environment for advanced technology sensors, combat systems and weapons users. Use of the facility will reduce expenses and increase training value by minimizing logistics costs while providing a realistic threat environment in which to train. The facility will also become a focal point for secure, distributed Research, Development, Test and Evaluation (RDT&E) planning and administration, thus eliminating redundant systems and/or functions. USB will also support the Navy in significantly reducing T&E acquisition expenses by introducing new systems earlier in the development cycle to the war fighter.

Failure to fund the USB facility will unnecessarily increase the cost of doing business for NUWCDIVNPT and its customers. Increased costs in the form of non integrated systems will result in development of redundant systems and facilities. Not being able to evaluate systems with the Fleet early in the development phase will also increase cost to the Navy by increasing development time and at sea testing. The USB represents an investment in the future via cost-effective development, testing, and training technology in response to reduced resources with ever increasing technology requirements.

An economic analysis was performed on this project indicating for the FY 99 investment a net present value of $6,585 thousand after 5 years.

Payback is expected in .42 years, with a benefit investment ratio of 10.71.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)		A. Budget Submission FY99 President's Budget
B. Component/Business Area/Date NUWC/R&D/February 1998	**C. Line No. & Item Description** L249 UNDERSEA WARFARE SYNTHETIC ENVIRONMENT DESIGN SYSTEM (USES)	**D. Activity Identification** NUWC Division, Newport

Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Undersea Warfare Syn Env Design System (USES)							1	1,100	1,100

Narrative Justification:

The Undersea Warfare Synthetic Environment System (USES) project provides synthetic environment augmentation and manages connectivity to the Undersea Synthetic Battlespace (USB) live assets. USES integrates distributed architecture systems to perform complex testing and development test and training exercises. The system uses simulation based design networking and 4AC application management.

USES will provide the core modeling and simulation (M&S) architecture for the Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) through cross-department application to reduce the cost of doing business. The system retains NUWCDIVNPT's leadership posture in Undersea Warfare (USW) M&S. USES provides USW/Submarine Fleet representatives with the tools to develop submarine and USW roles in the evaluating battleforce and tri-service simulation environments.

Not funding USES technology, will result in the loss of an established USW M&S leadership role for NUWCDIVNPT and the Navy. Without this project, increased program burdens for development of individual, specialized simulation capabilities will lead to higher costs paid by the customer. Failure to fund the USES efforts will perpetuate limited representation in the USW multiservice simulation arena.

An economic analysis was performed on this project indicating for the FY 99 investment a net present value of $3,074 thousand after 5 years. Payback is expected in 1.67 years, with a benefit investment ratio of 2.79.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)					A. Budget Submission FY99 President's Budget				
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L250 WAF NEW ARCHITECTURE						D. Activity Identification NUWC Division, Newport		
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
WAF New Architecture							1	400	400

Narrative Justification:

This investment will incorporate a new state-of-the-art hardware-in-the-loop architecture in the Naval Undersea Warfare Center, Division Newport (NUWCDIVNPT) Weapons Analysis Facility (WAF) to increase operational capacity and throughput, computational speed, flexibility and utility maximizing simulation capability of the WAF to evaluate current and future underwater weapons in tactical scenarios with a very high degree of fidelity and realism.

The architectural requirements mandate employment of cutting-edge parallel processing computer technology linked to a large suite of high speed inter-connected array processors, digital signal processors, and single board computers to handle increased bandwidths and data transfer rates of multi-system (e.g. salvo, instride training, Distributed Interactive Simulation) operations, required for real-time weapons simulator facility. In addition, integration of WAF to the Defense Simulation Internet (DSI) using DSI industry standard data protocols will enable WAF to interoperate with other Navy and Industrial simulators or in exercises encompassing the entire joint-force theater of operation or interlab communications connectivity with other Division simulation facilities to support major program efforts.

The incorporation of this new architecture in WAF increases its capability, functionality and support to a variety of Modeling and Simulation (M&S) functional areas including Simulation Based Design (SBD), virtual torpedoes, Unmanned Undersea Vehicles, networked simulation and training. Without the increased operational capacity and throughput, computational speed, and flexibility the WAF will not be capable of supporting these areas which yield a significant cost savings mostly associated with the elimination of at sea testing.

An economic analysis was performed on this project indicating for the FY 99 investment a net present value of $7,636 thousand after 5 years. Payback is expected in .24 years, with a benefit investment ratio of 19.09.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L241 NIFMS - NEWPORT DIVISION					D. Activity Identification NUWC Division, Newport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
NIFMS	1	410	410	1	307	307	1	158	158

Narrative Justification:
Provide Division Newport portion of the Defense Finance Accounting Service (DFAS) NAVAIR Industrial Financial Management System (NIFMS) requirements. An economic analysis is not relevant for this project.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description L242 NIFMS - KEYPORT DIVISION					D. Activity Identification NUWC Division, Keyport			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
NIFMS				1	1,002	1,002	1	451	451

Narrative Justification:

Provide Division Keyport portion of the Defense Finance Accounting Service (DFAS) NAVAIR Industrial Financial Management System (NIFMS) requirements. An economic analysis is not relevant for this project.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description SOFTWARE MINOR					D. Activity Identification NUWC Division, NPT/KPT			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Cash Model License				1	12	12	1	6	6

Narrative Justification:

FY98/99 Cash Model License

This expenditure is for the purchase of a centrally procured cash projection model for use by all NWCF activities.

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	**C. Line No. & Item Description** MINOR CONSTRUCTION PRODUCTIVITY					**D. Activity Identification** NUWC Division, NPT/KPT			
Elements of Cost	**FY1997**			**FY1998**			**FY1999**		
	Quant	**Unit Cost**	**Total Cost**	**Quant**	**Unit Cost**	**Total Cost**	**Quant**	**Unit Cost**	**Total Cost**
Minor Construction Productivity				2		424	4		900

Narrative Justification:

FY98

LAN/Voice Cable Carrying Plant Phase I

B68 6-Axis Motion Table

FY99

LAN/Voice Cable Carrying Plant Phase II

New Addition to Lab Complex

Electrical Upgrade - Phase 10

Regional Fleet Quality of Life/Secure Access

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)				A. Budget Submission FY99 President's Budget					
B. Component/Business Area/Date NUWC/R&D/February 1998	C. Line No. & Item Description MINOR CONSTRUCTION ENVIRONMENT					D. Activity Identification NUWC Division, NPT/KPT			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Minor Construction Environment				7		1,646	4		800

Narrative Justification:

FY98
Exterior Lighting Phase I
B80 Handicap Access
Sanitary Sewer System Upgrade
Power Plant Upgrade
Drinking Water System
Steam Distribution Upgrade - Phase 2
Steam Distribution Upgrade - Phase 3&4 Design

FY99
Exterior Lighting Phase II
Americans with Disabilities Act Upgrades Various Buildings
High Pressure Air Distribution
Drinking Water System

RESEARCH & DEV. CAPITAL PURCHASES JUSTIFICATION (Dollars in Thousands)									
A. Budget Submission: FY99 President's Budget									
B. Component/Business Area/Date: NUWC/R&D/February 1998	C. Line No. & Item Description: MINOR CONSTRUCTION REPLACEMENT					D. Activity Identification: NUWC Division, NPT/KPT			
Elements of Cost	FY1997			FY1998			FY1999		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Minor Construction Replacement							1		150

Narrative Justification:

FY99

New Access Road by Building 132

Department of the Navy
Research & Development
Naval Undersea Warfare Center
FY 1998
FY 1999 President's Budget

Item #	Approved Project	Original Request	Change	Revised Request	Explanation
	ADP and TELCOM				
L023	Undersea Warfare Systems Analysis Project (UWSA	.645	.000	.645	
L030	Replacement of Central Scientific & Engineering Cc	.071	.000	.071	
L061	Undersea Synthetic Environments Concept	.215	.000	.215	
L097	Antenna Range Modernization	.505	.000	.505	
L186	Simulation Based Design	.800	.000	.800	
L187	Sub Sonar Dev. & Evaluation (SSDEC)	.500	.000	.500	
L193	Advanced Attack Center Test Bed	.320	.000	.320	
L227	Simulator Expansion Capability	.365	.000	.365	
L228	Synthetic Environmental Training Initiative	.500	.000	.500	
L229	Fleet Support Data Links	.900	.000	.900	
L230	Target Physics Analysis System (TarPAS)	.317	-.317	.000	Diminished Requirement
L231	Virtual Systems Design	.700	.317	1.017	Additional requirements
L232	Supportability Analysis Tools	.375	.000	.375	
L233	Northwest Range Ancillary Tracking	1.500	.000	1.500	
L234	Tactical Active Sonar Acoustic Database	.460	.000	.460	
L238	Scientific & Mgmt Computer System Upgrade	.800	.000	.800	
L240	Strategic Management Information Center (SMIC)	.175	.000	.175	
	ADP and TELCOM Minor (>$100K <$500K)	2.601	.000	2.601	
	ADP and TELCOM Subtotal	11.749	0.000	11.749	

Department of the Navy
Research & Development
Naval Undersea Warfare Center
FY 1998
FY 1999 President's Budget

Item #	Approved Project	Original Request	Change	Revised Request	Explanation
Item #	**Non-ADP Equipment**				
L002	Intrusion Detection System (IDS)	.200	.000	.200	
L086	Transducer & Hull Array Lab Upgrade	.620	.000	.620	
L087	Towed and Deployed Sensor Lab Upgrade	.400	.000	.400	
L090	Submarine Sail Measurement Platform	1.000	.000	1.000	
L225	Shallow Water Syn Env Eval Complex (SWSEEC)	1.000	.450	1.450	Additional requirements
L226	3 Axis Motion Facility	1.300	-.450	.850	Downscope
	Misc Non-ADP Equipment (>$100K<$500K)	1.770	.000	1.770	
	Non-ADP Equipment Subtotal	6.290	0.000	6.290	

Department of the Navy
Research & Development
Naval Undersea Warfare Center
FY 1998
FY 1999 President's Budget

Item #	Approved Project	Original Request	Change	Revised Request	Explanation
	Software				
L241	Software (Major)	.000	0.307	.307	Capital Authority Increase
L242	Software (Major)	.931	0.071	1.002	Capital Authority Increase
	Software (Minor)	.000	0.012	.012	Cash Model License
	Software Subtotal	.931	0.390	1.321	
Item #	**Minor Construction**				
	Misc Minor Construction	2.070	.000	2.070	
	Minor Construction Subtotal	2.070	.000	2.070	
	Total NUWC FY98	21.040	0.390	21.430	

Fund 9D

Department of the Navy
Research & Development
Naval Undersea Warfare Center
FY 1999
FY 1999 President's Budget

Item #	Approved Project ADP and TELCOM	Original Request	Change	Revised Request	Explanation
L023	Undersea Warfare Systems Analysis Project (UWSA	.610	-.360	.250	Program Downscoped
L061	Undersea Synthetic Environment Concept	.240	-.240	.000	Program Completed
L097	Antenna Range Modernization	.450	.000	.450	
L186	Simulation Based Design	2.300	-1.000	1.300	Program Downscoped
L187	Sub Sonar Dev. & Evaluation (SSDEC)	.500	-.250	.250	Program Downscoped
L193	Advanced Attack Center Test Bed	.200	.300	.500	Additional Requirements
L227	Simulator Expansion Capability	.300	-.300	.000	Program Completed
L228	Synthetic Environmental Training Initiative	.500	.000	.500	
L229	Fleet Support Data Links	.700	.000	.700	
L230	Target Physics Analysis System	.314	-.314	.000	Program Cancelled
L231	Virtual Systems Design	.700	.635	1.335	Additional Requirements
L232	Supportability Analysis Tools	.375	.000	.375	
L233	Northwest Range Ancillary Tracking	.900	.000	.900	
L234	Tactical Active Sonar Acoustic Database	.615	-.334	.281	Program Downscoped
L238	Scientific & Mgmt Computer System Upgrade	.800	.183	.983	Additional Requirements
L239	EMC Measurement Facility	.505	-.505	.000	Program Cancelled
L240	Strategic Management Information Center (SMIC)	.515	-.415	.100	Program Downscoped
L247	Integrated Display Center Upgrade	.000	.485	.485	Strategic Focus
L248	Undersea Battlespace Facility	.000	.615	.615	Strategic Focus
L249	Undersea Warfare Synthetic Environment Design Sy	.000	1.100	1.100	Strategic Focus
L250	WAF New Architecture	.000	.400	.400	Strategic Focus
	ADP and TELCOM Minor (>$100K <$500K)	2.397	.000	2.397	
	ADP and TELCOM Subtotal	12.921	0.000	12.921	

Fund 9D

Department of the Navy
Research & Development
Naval Undersea Warfare Center
FY 1999
FY 1999 President's Budget

Item #	Approved Project	Original Request	Change	Revised Request	Explanation
	Non-ADP Equipment				
L002	Intrusion Detection System (IDS)	.200	.000	.200	
L086	Transducer & Hull Array Lab Upgrade	.635	-.335	.300	Program Downscope
L087	Towed and Deployed Sensor Lab Upgrade	.000	.400	.400	Additional Requirements
L090	Submarine Sail Measurement Platform	.250	-.250	.000	Program Completed
L183	Littoral Undersea Warfare Complex	.400	-.400	.000	Program Completed
L224	P-334 Collateral Equipment	.000	.690	.690	Strategic Focus
L225	Shallow Water Syn Env Eval Complex (SWSEEC)	1.500	-.409	1.091	Program Downscope
L245	Retrofit/Replacement of AC&R Equipment	.000	.500	.500	Strategic Focus
L246	Multistatic Active Sonar Testbed Upgrade	.000	.494	.494	Strategic Focus
	Misc Non-ADP Equipment (>$100K<$500K)	1.170	.000	1.170	
	Non-ADP Equipment Subtotal	4.155	0.690	4.845	

Department of the Navy
Research & Development
Naval Undersea Warfare Center
FY 1999
FY 1999 President's Budget

	Approved Project	Original Request	Change	Revised Request	Explanation
	Software				
L241	Software (Major)	.000	0.158	.158	Capital Authority Increase/DIFMS
L242	Software (Major)	.414	0.037	.451	Capital Authority Increase/DIFMS
	Software (Minor)	.000	0.006	.006	Cash Model License
	Software Subtotal	.414	0.201	.615	
Item #	**Minor Construction**				
	Misc Minor Construction	1.550	.300	1.850	Regional Fleet QOL/Secure Access
	Minor Construction Subtotal	1.550	.300	1.850	
	Total NUWC FY99	19.040	1.191	20.231	

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
ACTIVITY GROUP: RESEARCH AND DEVELOPMENT
SUB-ACTIVITY GROUP: NCCOSC

Activity Group Function: The Naval Command, Control and Ocean Surveillance Center (NCCOSC) is the Navy's full spectrum research, development, test and evaluation, engineering and fleet support center for command, control and communication systems and ocean surveillance and the integration of those systems which overarch multiplatforms. NCCOSC supports the Fleet in mission and capability by providing the most capable and ready command and control systems for the Navy. NCCOSC provides innovative scientific and technical expertise, facilities, and understanding of defense requirements necessary to ensure that the Navy can develop, acquire, and maintain the warfare systems needed to meet requirements at an acceptable price. NCCOSC also provides engineering and fleet support for assigned systems to maintain the Fleet's warfighting capability. NCCOSC:

1. Provides warfare systems analysis.
2. Plans and conducts effective technology programs.
3. Provides cost conscious systems engineering and technical support to program managers in all phases of systems development and acquisition.
4. Provides test and evaluation support including the development and operation of major RDT&E and measurement facilities.
5. Provides technical input to the development of operational tactics.
6. Provides electronics material support (technical and management) for systems and equipment under the cognizance of SPAWAR.
7. Provides specialized technical support to the Fleet for quick-reaction requirements.

Activity Group Composition: NCCOSC is composed of a Research, Development, Test and Evaluation Division and an In-Service Engineering East Coast Division. This organizational structure best facilitates the entire cycle of systems engineering from research and development through to waterfront support.

The NCCOSC RDT&E Division (or NRaD) is located in San Diego, CA. In a base realignment and closure action described below, NRaD has merged with the former NCCOSC In-Service Engineering West Coast Division (or NISE West), located in San Diego, CA with detachments in Pearl Harbor, HI; Guam; and Japan.

The NCCOSC In-Service Engineering East Coast Division (or NISE East) is headquartered in Charleston, SC with detachments in St. Inigoes, MD and Norfolk, VA.

Summary of Base Closure and Realignment (BRAC) impacts:
NCCOSC has undergone and will undergo further significant BRAC actions as a result of the BRAC 1991, 1993, and 1995 processes. NCCOSC BRAC 1991, 1993, and 1995 efforts include:

BRAC 1991
- Closure of NRaD Detachment Kaneohe, HI (effective FY 1993) with functions relocating to San Diego, CA and Pearl Harbor, HI
- Closure of NRaD Detachment Los Angeles, CA (effective FY 1993), with all functions relocating to NRaD San Diego, CA
- Closure of NISE West Detachment Vallejo, CA (effective FY 1995) with all functions relocating to NISE West San Diego, CA

BRAC 1993
- Closure of NISE East Detachment Washington, DC (effective FY 1995), with all functions relocating to Charleston, SC
- Functional transfer of the Modular Maintenance Facility from the Charleston Naval Shipyard to NISE East (effective FY 1995)
- Functional transfer of 70% of NISE East Detachment St. Inigoes, MD functions to the Naval Air Warfare Center (effective FY 1995)
- Closure of all remaining NISE East Detachment St. Inigoes, MD functions (effective FY 1997), with all functions relocating to Charleston, SC
- Realignment of NISE East Detachment Norfolk, VA (effective FY 1998), with a small detachment remaining in place and all other functions relocating to Charleston, SC

BRAC 1995
- Closure of NRaD Detachment Warminster, PA (effective FY 1996), with functions relocating to NRaD San Diego, CA and Bay St. Louis, MS. The NRaD Detachment Philadelphia, PA which was scheduled to relocate to Warminster, will also relocate to San Diego under the BRAC 1995 recommendation (effective FY 2000).
- Consolidation of NISE West and NRaD (effective FY 1997)

Additionally, the BRAC 1995 action to collocate NCCOSC's parent command, the Space and Naval Warfare Systems Command (SPAWAR), with the combined NRaD/NISE West organization (effective FY 1998) will have a significant impact on NCCOSC.

Financial Profile:

	(Millions $) FY 1997	FY 1998	FY 1999
Revenue	1,092.9	938.4	931.3
Costs of Goods Sold	1,086.5	951.5	938.2
Net Operating Results	6.4	-13.1	-6.9
Accumulated Operating Results	20.0	6.9	0.0

Revenue

Revenue decreases from FY 1997 to FY 1998 represent reductions in customer workload, further impact of the FY 1996 shift from reimbursable to direct cite, reduced BRAC implementation costs, increased savings from BRAC actions and CPP acquisitions, and a reduction in the previously approved stabilized rate to return a larger than expected FY 1996 NOR. The decreases are partially offset by increases due to pricing adjustments.

Revenue decreases from FY 1998 to FY 1999 represent minor reductions in customer workload, reduced BRAC implementation costs, savings from BRAC actions and CPP acquisitions, other efforts to reduce overhead costs, and a reduction in the stabilized rate to return a larger than expected FY 1997 NOR. The decreases are partially offset by increases due to pricing adjustments.

Costs of Goods Sold

Net cost decreases from FY 1997 to FY 1998 represent reductions in customer workload, further impact of the FY 1996 shift from reimbursable to direct cite, reduced BRAC implementation costs, and increased savings from BRAC actions and CPP acquisitions. The decreases are partially offset by increases due to pricing adjustments.

Net cost decreases from FY 1998 to FY 1999 represent minor reductions in customer workload, reduced BRAC implementation costs, savings from BRAC actions and CPP acquisitions, and other efforts to reduce overhead costs. The decreases are partially offset by increases due to pricing adjustments.

Operating Results

The changes in Net Operating Results (NOR) from year to year are primarily due to differences in the level of prior year loss to be made up by each year's rates. FY 1998 rates were set based on the $14.6 million profit projected for the end of FY 1997.

The positive FY 1997 NOR of $6.4 million, offset by a military labor variance of -$1.4 million and a prior year adjustment of -$0.1 million, brought AOR to $20.0

million at the end of FY 1997. In FY 1998, it is expected that $13.1 million of this positive AOR will be returned to customers bringing AOR to $6.9 million. FY 1999 revenue and rates are budgeted at the level necessary to break even ($0.0 AOR) by the end of FY 1999.

Workload:

	FY 1997	FY 1998	FY 1999
Direct Labor Hours	5,653,684	5,706,371	5,656,062

(Millions $)

	FY 1997	FY 1998	FY 1999
Reimbursable Orders	1,029.0	898.1	913.2

Direct Labor Hours

The increase in direct labor hours (DLHs) from FY 1997 to FY 1998 (0.9%) is primarily due to the full year impact of hiring actions completed in the summer of 1997. DLHs decrease by 0.9% from FY 1998 to FY 1999 due to an anticipated minor decline in customer workload

Orders Received

Approximately 75% of the services provided by NCCOSC are to Navy or to Navy Working Capital Fund customers, with the balance provided mostly to other DoD and Federal customers. By far the largest of NCCOSC's customers is SPAWAR, who provides 40-50% of orders. Other significant Navy customers include NAVSEA, NAVAIR, OCNR, CINCPACFLT and CINCLANTFLT. Significant other DoD customers include DARPA and the Air Force and Army C4I organizations. The projected funding levels in FY 1997-1999 are based on NCCOSC program managers' discussions and planning efforts with major customers, and validated against input received from other Navy Budget Submitting Offices (BSO) projecting their planned reimbursable purchases from NCCOSC. A significant portion of the projected minor funding reductions between FY 1997 and FY 1999 is due to reduced hardware acquisitions/installations in the procurement appropriation that, while reducing the overall business base, have minimal impacts on the level of the in-house workforce.

Performance Indicators:

NCCOSC outputs are scientific and engineering designs, developments, tests, evaluations, analyses, installations and fleet support for systems in the assigned NCCOSC mission areas. The measure of this output is the direct labor worked for a customer. Customers are charged a predetermined stabilized billing rate per

employee hour worked. The rate includes the salary and benefits costs of the performing employee (direct labor costs) and a share of the overhead costs of NCCOSC, both general base operating support and unique production overhead costs of the performing employee's cost center. Non-labor, non-overhead costs, such as customer-required material and equipment purchases, travel expenses, and contractual services, are charged to the customer on an actual cost reimbursable basis, and thus are not part of the NCCOSC stabilized pricing structure. As discussed in the March 1993 Milestone II Report to Congress, definitive performance measures for the Research and Development (R&D) Activity group have not yet been developed. NCCOSC uses total stabilized cost per hour as its performance criterion.

The composite stabilized rate and the average total stabilized cost per direct labor hour (DLH) (unit cost) for NCCOSC are discussed below.

Customer Rate Changes:

	FY 1997	FY 1998	FY 1999
Stabilized Rate	$75.68	$72.57	$73.92
Change from Prior Year	3.1%	-4.1%	1.9%

Stabilized Rate

Changes in composite stabilized rates are the result of changes between years in DLHs, stabilized (rather than total) costs, and AOR recovery factors in the budgets on which each year's rates are set.

From FY 1997 to FY 1998, the stabilized rate decreases by $3.11 (-4.1%), primarily due to the AOR recovery surcharge to reflect the higher than budgeted FY 1996 NOR. This rate decrease is reinforced by the fact the budgeted overhead costs actually decrease by 4.6% and direct labor hours increase, although direct labor costs per hour increase due to standard pay raise guidance.

From FY 1998 to FY 1999, the stabilized rate increases by $1.35 (1.9%), primarily due to the much smaller AOR recovery surcharge. Direct labor costs per hour increase due to standard pay raise guidance. Offsetting this increase, overhead costs decrease by 1.1%.

Unit Costs:

	FY 1997	FY 1998	FY 1999
Total Stabilized Cost ($M)	419.8	426.6	426.6
Workload (DLH)	5,653,684	5 ,706,371	5,656,062
Unit Cost (per DLH)	$74.25	$74.75	$75.42

Total Stabilized Costs
The changes in stabilized costs from FY 1997 to FY 1998 and from FY 1998 to FY 1999 represent pricing adjustments, offset by changes in direct labor hours and BRAC, CPP, and other savings.

Unit Cost
Changes in unit cost (total stabilized cost per direct labor hour (DLH)) from year to year are due to changes in total stabilized costs relative to changes in DLHs. As total stabilized costs increase by 1.6% from FY 1997 to FY 1998, the 0.9% increase in DLHs results in a 0.7% increase in unit cost. As total stabilized costs remain the same from FY 1998 to FY 1999, the 0.9% decrease in DLHs results in a 0.9% increase in unit cost.

Staffing:

	FY 1997	FY 1998	FY 1999
Civilian End Strength	5,068	5,044	4,966
Civilian Work Years	5,014	5,039	4,966
Military End Strength	96	107	100
Military Work Years	103	107	75

Civilian Personnel
The civilian workforce reductions between FY 1997 and FY 1998 reflect additional BRAC savings (-136), personnel efficiencies from capital investments (-10), human resource office (HRO) efficiencies (-8), transfer of some HRO personnel to regional HRO centers (-14), and other workload changes reflecting customer workload funding projections (+144) including hiring actions to offset underexecution of workload in FY 1997. The civilian workforce reductions between FY 1998 and FY 1999 reflect additional BRAC savings (-17), additional personnel efficiencies from capital investments (-5), further assumed HRO efficiencies (-2), further transfer of personnel to regional HRO centers (-28), and other changes (-26).

Military Personnel
FY 1997 military end strength and work year levels reflect actual data. The FY 1998 and FY 1999 end strengths represent projected on-board levels based on the most recent military authorizations. Military labor costs reimbursements have been reflected in the budget based on civilian equivalent rates. FY 1998 is fixed based on the FY 1998 President's Budget, while FY 1999 has been repriced based on the manning level included in this budget submission and revised civilian equivalency rates. FY 1999 workyears are phased to reflect the timing of expected

accessions and separations during the year, and also reflect the impact of workyears paid for but personnel not on-board.

Headquarters Cost:

	FY 1997	FY 1998	FY 1999
		(Millions $)	
Cost of Management Headquarters	3.9	1.3	1.3

In FY 1998, the NCCOSC headquarters organization will be disestablished due to a BRAC 1995 action, leaving only costs of those SPAWAR headquarters organizations directly supporting NCCOSC.

Capital Budget Authority:

	FY 1997	FY 1998	FY 1999
		(Millions $)	
Equipment-Non ADPE/Telecom	1.741	0.770	0.130
ADPE/Telecom Equipment	4.903	3.397	9.948
Software Development	2.366	3.373	5.223
Minor Construction	1.241	0.750	1.114
TOTAL	10.251	8.290	16.415

NCCOSC spends approximately one percent of revenues on capital investments. This represents a modest investment to maintain a technically efficient organization to support the Fleet and other Navy and Defense customers in their requirements. While not the primary reason for these capital investments, it should be noted that these CPP investments will result in savings of $2.5 million in FY 1997, increasing by $4.3 million in FY 1998 and $1.7 million in FY 1999. The majority of NCCOSC CPP investments are purchased to provide technical capabilities so that NCCOSC can meet its customer requirements. These CPP investments also allow NCCOSC to perform its assigned mission at a lower cost to customers than would otherwise be possible, but the driving reason for buying these items is for NCCOSC to have the ability to meet its technical customer requirements.

NCCOSC, an R&D activity group activity, is scheduled to convert from its existing accounting system to the selected DoD migratory accounting system (DIFMS) effective January 1998. Software development costs of $0.692 million in FY 1996, $2.366 million in FY 1997, and $2.833 million in FY 1998 have been included to reflect DIFMS conversion costs.

The slight decrease between FY 1997 and FY 1998 is mainly due to reduced requirements for general purpose non-ADP equipment and ADP items, offset by

software development items to reduce manpower requirements. The increase from FY 1998 to FY 1999 is mainly due to general purpose technical items to support direct workload (such as supercomputer upgrades to new technologies and the re-hosting of a satellite signal generator), efforts to reduce overhead costs, through some projects as re-engineering of business processes, and required minor construction projects to resolve safety and community relations problems.

Economies and Efficiencies:
Cost estimates include savings from Base Relocation and Consolidation (BRAC) initiatives, other overhead reductions (including initiatives to re-invent shore infrastructure management and improving the HRO servicing ratio) and from productivity improvements from Capital Purchases Program (CPP) projects, although many miscellaneous overhead reductions are not reflected. The table below summarizes the incremental savings included in the budget which are to be achieved each year from these specific initiatives.

	FY 1997			FY 1998			FY 1999		
	E/S	W/Y	$M	E/S	W/Y	$M	E/S	W/Y	$M
BRAC 1993	2	2	0.1	0	0	1.2	6	6	1.2
BRAC 1995	23	92	6.2	136	136	9.1	0	11	0.8
Other efficiencies	0	0	0.0	8	8	2.4	2	2	0.1
CPP	23	11	2.5	5	10	4.3	14	5	1.7
Total	48	105	8.8	149	154	17.0	22	24	3.8

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
NCCOSC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	1,085.7	930.7	922.7
Surcharges	.0	.0	.0
Depreciation excluding Major Constructio	7.2	7.7	8.6
Other Income			
Total Income	1,092.9	938.4	931.3
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	5.0	6.4	4.4
Civilian Personnel	343.9	367.2	372.2
Travel and Transportation of Personnel	31.6	34.7	34.6
Material & Supplies (Internal Operations	95.5	85.9	85.7
Equipment	40.9	25.7	26.1
Other Purchases from NWCF	69.4	60.3	57.8
Transportation of Things	1.5	1.4	1.4
Depreciation - Capital	7.2	7.7	8.6
Printing and Reproduction	1.4	1.3	1.3
Advisory and Assistance Services	4.2	6.0	6.3
Rent, Communication & Utilities	19.4	15.1	14.4
Other Purchased Sevices	462.3	339.7	325.4
Total Expenses	1,082.4	951.6	938.2
Work in Process Adjustment	5.0	.0	.0
Comp Work for Activity Reten Adjustment	-.9	-.1	-.1
Cost of Goods Sold	1,086.4	951.5	938.2
Operating Result	6.4	-13.1	-6.9
Less Surcharges	.0	.0	.0
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	.0	.0	.0
Net Operating Result	6.4	-13.1	-6.9
Other Changes Affecting AOR	-1.4	.0	.0
Accumulated Operating Result	20.0	6.9	.0

Exhibit Fund-14

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NCCOSC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	1,029.0	898.1	913.2
a. Orders from DoD Components	917.8	774.2	841.5
Department of the Navy	729.7	614.9	733.5
O & M, Navy	269.9	221.3	249.6
O & M, Marine Corps	11.0	9.7	8.9
O & M, Navy Reserve	3.7	5.3	5.4
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	8.5	.4	.4
Weapons Procurement, Navy	6.3	5.4	3.6
Ammunition Procurement, Navy/MC	1.2	.0	.0
Shipbuilding & Conversion, Navy	43.5	28.3	22.2
Other Procurement, Navy	226.9	202.2	287.3
Procurement, Marine Corps	5.2	1.4	2.3
Family Housing, Navy/MC	.0	.0	.0
Research, Dev., Test, & Eval., Navy	152.9	140.8	153.7
Military Construction, Navy	.5	.0	.0
Other Navy Appropriations	.0	.0	.0
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	12.4	8.8	3.7
Army Operation & Maintenence	3.6	2.2	1.2
Army Res, Dev, Test, Eval	3.7	2.7	.7
Army Procurement	5.1	3.8	1.8
Army Other	.0	.0	.0
Department of the Air Force	31.1	24.6	22.4
Air Force Operation & Maintenence	4.3	2.7	1.7
Air Force Res, Dev, Test, Eval	22.2	20.4	19.2
Air Force Procurement	4.7	1.4	1.5
Air Force Other	.0	.0	.0
DOD Appropriation Accounts	144.5	125.9	81.9
Base Closure & Realignment	22.1	10.3	2.4
Operation & Maintence Accounts	21.9	18.9	10.0
Res, Dev, Test & Eval Accounts	74.7	72.2	62.2
Procurement Accounts	19.9	21.0	4.8
DOD Other	5.9	3.5	2.5
b. Orders from NWCF Business Area	59.4	55.3	33.6
c. Total DoD	977.2	829.5	875.1
d. Other Orders	51.9	68.6	38.1
Other Federal Agencies	28.2	28.8	18.8
Foreign Military Sales	17.4	34.3	15.3
Non Federal Agencies	6.2	5.5	4.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NCCOSC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	489.4	425.6	385.2
3. Total Gross Orders	1,518.4	1,323.7	1,298.5
4. Funded Carry-Over **	425.6	385.2	367.2
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	1,092.9	938.4	931.3

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

Exhibit Fund-2

CHANGES IN THE COST OF OPERATIONS
SUB-ACTIVITY GROUP: SPAWAR/NAVAL COMMAND, CONTROL AND OCEAN SURVEILLANCE CENTER (NCCOSC)
(Dollars in Millions)

	EXPENSES (DBC 4970)
FY 1997 Actual	**1,081.5**
FY 1998 Estimate in President's Budget:	**936.2**
Price Changes:	
Labor Repricing	3.0
Civilian Retirement Contribution Changes	1.6
Department of Labor Increase to Guard Contract	0.1
General Inflation Changes	-3.8
Productivity Initiatives and Other Efficiencies:	
CPP Savings	-1.5
BRAC IV Direct and Overhead Efficiencies	-1.2
Miscellaneous Overhead and Direct Efficiencies	-1.3
Program Changes:	
Increased Hiring of Technical Personnel	5.8
Increased Reimbursable Tenant Support	2.2
Reduction in Depreciation Expense	-1.5
Miscellaneous Direct and Overhead Reductions	-6.3
Increased Supercomputer Maintenance Previously Funded by DDR&E	0.7
Facility Repairs	0.5
Elimination of Planned VSIP's	-2.0
Increased Customer Workload	19.0
FY 1998 Current Estimate	**951.5**
Pricing Adjustments:	
Civilian Personnel	12.5
Military Personnel	0.1
Materials and Supplies	
Fuel	0.0
All other	0.7
Other Price Changes	0.8
Productivity Initiatives and Other Efficiencies:	
CPP Savings	-1.7
BRAC III Savings	-1.2
BRAC IV Savings	-0.8
Other Reductions (HRO servicing ratio, etc.)	-0.1

Program Changes:

Reduction in Military Personnel Costs	-2.1
Reduction in Direct Personnel Recruitment Efforts	-0.5
Transfer of HRO personnel to regional centers	-1.6
Miscellaneous Overhead Reductions	-0.6
Increased Depreciation Expense	0.9
Reduced contract workload	-19.7
FY 1999 Current Estimate	**938.2**

Activity Group Capital Budget Summary
Department of the Navy
NCCOSC

($ in Millions)

LINE #	Item Description	FY 1997		FY 1998		FY 1999	
		Quant	Total Cost	Quant	Total Cost	Quant	Total Cost
	1. Non-ADP Equipment						
L0001	Misc. Non-ADP Equipment (>= $.100M and < $.250M)	VAR	1.317	VAR	0.770	VAR	0.130
L0002	Satellite Signal Simulator - Productivity	1	0.424				
	Subtotal Non-ADP Equipment	**VAR**	**1.741**	**VAR**	**0.770**	**VAR**	**0.130**
	2. ADPE and Telecommunications Resources						
	(a). Computer Hardware (Production)						
	(b). Computer Software (Operating System)						
	(c). Other ADPE and telecommunications resources						
L0003	Misc. ADP Equipment (>= $.100M and < $.500M)	VAR	2.038	VAR	2.017	VAR	3.679
L0004	Supercomputer - New Mission	VAR	1.321				3.500
L0005	Electronic Briefing Theater - Productivity	1	0.762				
L0006	Video Teleconferencing Center - Productivity	1	0.782				
L0007	Security System Extension, San Diego - New Mission			1	0.600		
L0008	Electronic Boardroom - Productivity			1	0.780		
L0009	Digitized Retrievable Database - New Mission						0.600
L0010	Backbone Capacity Upgrade - Productivity						0.995
L0011	Management Information Data Sever - New Mission						0.512
L0012	Document Imaging & Retrieval - Productivity						0.662
	Subtotal ADPE & Telecommunications	**VAR**	**4.903**	**VAR**	**3.397**	**VAR**	**9.948**
	3. Software Development (>= $.100M)						
L0013	DIFMS Conversion Effort - New Mission	VAR	2.366		2.833		
L0014	DIFMS Reengineering - New Mission				0.528		0.272
L0015	Cash Model License - New Mission				0.012		0.006
L0016	Corporate Business System - New Mission						2.000
L0017	Rehost of Satellite Signal Generator - Productivity						0.115
L0018	Engineering Management System - New Mission						2.830
	Subtotal Software Development (>= $.100M)		**2.366**	**0**	**3.373**	**0**	**5.223**

Activity Group Capital Budget Summary
Department of the Navy
NCCOSC

($ in Millions)

LINE #	Item Description	FY 1997 Quant	FY 1997 Total Cost	FY 1998 Quant	FY 1998 Total Cost	FY 1999 Quant	FY 1999 Total Cost
	4. Minor Construction (>= $.100M and < $.500M)						
L0019	Staging/Ready- Issue Facilities - New Mission	1	0.475				
L0020	Alteration/Upgrade of Building - Productivity	1	0.290				
L0021	Facilities Refurbishment and Improvement - New Mission		0.029				
L0022	Hazardous Material Minimization Center - Productivity		0.447				
L0023	Library Air Conditioning - New Mission			1	0.250		
L0024	Warehouse Building - New Mission			1	0.275		
L0025	Air Conditioning Plant Conversions - Replacement			1	0.225		
L0026	Replace Wing 4, Building A29 - Replacement						0.350
L0027	Gate 1 Employee Parking - New Mission						0.480
L0028	Second Floor, Building 27 - New Mission						0.284
	Subtotal Minor Construction (>= $.100M and < $.500M)	**VAR**	**1.241**	**VAR**	**0.750**	**VAR**	**1.114**
	Grand Total Capital Purchases Program	**VAR**	**10.251**	**VAR**	**8.290**	**VAR**	**16.415**

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)							A. FY 1999 President's Budget					
B. Navy/Research and Development/NCCOSC				C. L0001 - Non-ADP Equipment - (>= $100,000 ,< $250,000)						D. NCCOSC		
	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment Installation Testing				VAR		1,317	VAR		770	VAR		130
TOTAL						1,317			770			130

Justification:

This category provides NCCOSC the means to procure technical items used for multiple projects. Examples of NCCOSC non-ADP equipment requirements are as follows:

Lightwave Signal Analysis Equipment. This equipment will provide a basic lightwave measurement/test /evaluation capability needed to accomplish planned development and evaluation efforts related to the use of optical systems and components for internal and external aircraft communications systems.

Ship Motion Simulator (SMS) Controller. This controller will allow for the collection of synchronized digitized data from the inertial systems under test as well as the SMS. This capability will improve the decision making process relative to the test conducted and objectives. The controller will allow the use of actual at-sea digitized ship attitude/attitude rate data to control the SMS and emulate the actual shipboard dynamic environment. This will significantly improve the capability to support investigations and resolution of fleet supported programs.

Portable Satellite Simulator Test Set (PSSTS). The PSSTS provides state-of-art technological testing capabilities for highly technical fleet direct satellite equipment. The system provides a technical capability for Depot Maintenance and Restoration of Direct Fleet repair items.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0001 - Non-ADP Equipment - (>= $100,000, < $250,000) (Page 2)	D. NCCOSC

Justification: (cont)

Wide Area Augmentation System (WAAS) Satellite Simulators. Acquisition of these simulators will allow the Global Positioning Station (GPS) laboratory to replicate the evolving WAAS signal environment or synthesize "what if" environments. The simulators are capable of simulating the following: a geostationary satellite broadcasting WAAS augmentation data, a pseudolite (ground based satellite which enhances a local system accuracy), or an interference source.

Wide Band High Frequency Channel Simulators. This equipment is necessary to keep the signal and jammer as independent paths, and will enhance ongoing research in Electronic countermeasures programs.

Compact Antenna Range Reflector Plate and Pedestal. This equipment will allow the anechoic chamber located at NRaD to be used as a compact range, which will improve dynamic range and quieting. Every year, the electromagnetic noise level in San Diego has increased, thereby reducing the lab's ability to measure a sidelobe performance.

Other Administrative/Operational Equipment. Procurements in the category include lathes and other equipment for making tools and machine shop equipment. Also included are testing equipment, oscilloscopes, and Xerox machines.

Other Scientific/Technical Equipment. This includes such items as monitoring/recording systems, spectrum analyzers, and radar components/receivers.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)							A. FY 1999 President's Budget					
B. Navy/Research and Development/NCCOSC				C. L0002 - Satellite Signal Simulator - Productivity						D. NCCOSC		
				FY 1997			FY 1998			FY 1999		
Element of Cost				Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment				1	124	124						
Installation(CFAR))					0	0						
Testing					0	0						
Software					300	300						
TOTAL					424	424						

Justification:

This purchase is for a Satellite Signal Simulator (SSS). This simulator combines the Wide Area Augmentation (WAAS) and Local Area Augmentation (LAAS) capability, the Computer Applications Software Technology (CAST) interface, altitude determination capability, and other capabilities. This system will allow for complete simulation of all possible satellite combinations in a classified and unclassified constellation. It will include the capability to test differential Global Positioning System (GPS) receivers, all-in-view GPS receivers and GPS/GLONASS receivers and very precise carrier phase GPS receivers. It will include software drivers to allow for existing NCCOSC RDTE DIV (NRaD) derived simulation software and (NRaD) CAST GPS to externally drive the simulator.

The Central Engineering Activity (CEA) Laboratory provides the GPS receiver hardware in the loop test capability for the GPS Joint Program Office (JPO). A major element of the CEA Laboratory is the Satellite Signal Simulator.

The customer base will be the military activities that develop and use satellite capabilities in the future.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0002 - Satellite Signal Simulator - Productivity (page 2)	D. NCCOSC

JUSTIFICATION: (cont)

NRaD's GPS laboratory is the premier government facility supporting RDT&E of GPS and products using GPS not only for the Navy, but for all DOD services. As such, the NRaD lab has accrued extensive knowledge, experience and methods in testing GPS and navigation systems based on GPS. It is logical to maintain this investment as GPS and GPS related systems continue to evolve. One evolving system is the Wide Area Augmentation System (WAAS), whose implementation at the Department of Transportation is imminent. The WAAS system is closely related to, and to a large degree dependent upon, GPS.

The current Stel simulator used in the CEA Laboratory requires the attention of dedicated operators during testing, estimated to be at an annual cost of $286K. The new simulators have more automated operator interfaces, and do not require dedicated operators. This would be a yearly cost savings of an estimated $286K.

This is a new, developing area of GPS systems. There are few alternatives to this type of equipment and capability.

Based on consultations/discussions with other experts in the field of GPS, this option is the most cost effective choice.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0003 - Miscellaneous ADP Equipment (>= $100,000, < $500,000)

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment Installation Testing				VAR		2,038	VAR		2,017	VAR		3,679
TOTAL						2,038			2,017			3,679

Justification:

This category provides NCCOSC the means to procure ADP items used for multiple projects. Examples of NCCOSC ADP equipment requirements are as follows:

Network Servers: This equipment is required to support the corporate information system. Hardware will include peripheral connection interchange bus architecture, symmetric multi-purpose work group servers, and server peripheral equipment (tape drives, remote access, terminal servers, modems, etc). These servers will provide file-served applications to NCCOSC technical and support personal. This equipment will support related applications as processing travel orders, training requests, purchase requests, and timekeeping.

Computer Systems Upgrade: This equipment is required to support the maintenance and re-engineering changes necessitated by mandated changes to existing application systems.

Database Licenses and Computer Software: These licenses and software are needed to allow additional users to have access to and to better use the Corporate information system.

Service and Information Request Network Server: Purchase of this server will allow use of multi-user licenses to replace individual licenses on PC's, and will provide the ability to quickly update software being used throughout NCCOSC.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0003 - Miscellaneous ADP Equipment (>= $100,000, < $500,000) (page 2)	D. NCCOSC

Justification: (cont)

Data Warehouse: The Data Warehouse is a tool designed to help management make Corporate decisions. A Warehouse Manager and Directory Manager will be purchased to begin development of a Data Warehouse.

Infrastructure Cabling: This purchase is for cable, connectors, power supplies and other equipment needed to update the current local area network to support new technology requirements in the future.

Array Processor System for Satellite Vulnerability Collection and Analysis System: This system consists of threes Mercury Race Series 6U Multicomputer systems, with their associated development packages. This system is required to replace the current array processor which does not have the processing speed needed to keep up with the number of data snapshots being taken by the collection subsystem.

Web Server System: This equipment is required to allow more economical and timely access to the Web.

Command and Control Network: This Command and Control network will be a backbone network service for classified and unclassified, high bandwidth, high speed, multi-media internetworking between the NCCOSC R&D Division laboratory spaces located throughout Point Loma. The network will also provide connectivity to other tenant activity laboratories and provide connectivity to other networks.

Database Engine Upgrade: The NCCOSC Corporate Data Base is a centralized data repository for on-line and batch mode business information systems and queries and report functions performed by end-users. In order to support the increased number of users and growth in data storage, it is necessary to purchase additional computing capability and disk storage capacity for the Sequent computer.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0004 - Supercomputer - New Mission

D. NCCOSC

Element of Cost	FY 1996 Quant	FY 1996 Unit Cost	FY 1996 Total Cost	FY 1997 Quant	FY 1997 Unit Cost	FY 1997 Total Cost	FY 1998 Quant	FY 1998 Unit Cost	FY 1998 Total Cost	FY 1999 Quant	FY 1999 Unit Cost	FY 1999 Total Cost
Equipment Installation Testing				VAR		1,321						3,500
TOTAL						1,321						3,500

Justification:

The supercomputer systems and high capacity networking are integral parts of a High Performance Computing and Networking (HPCN) environment supporting Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) at the Naval Command, Control and Ocean Surveillance Center Research, Development, Test and Evaluation Division (NRaD). The HPCN environment at NRaD currently includes Intel PARAGON XP/S-25 and Hewlett-Packard/Convex EXEMPLAR SPP-1600 parallel supercomputer systems, Silicon Graphics scientific visualization systems, and Asynchronous Transfer Method (ATM) high-speed backbone networking systems and peripherals. The PARAGON has 25.2 Gigaflops (billion floating-point operations per second) peak performance, and the EXEMPLAR has 7.7 Gigaflops. The ATM backbone network links major facility areas of the NraD campus with a communications bandwidth of 155 Mbps (million bits per second). The systems are used primarily for porting Command and Control (C2) software to parallel computers and for solving classified scientific problems, investigations and experimental development of embedded system applications (real time, databases, simulations, signal and image processing, Communications and C2 functions). Scientists and engineers at over forty different RDT&E activities of all branches of DOD have access to the EXEMPLAR and PARAGON via the Defense Research and Engineering Network (DREN). High Performance Computing and Communications are vital and essential base technologies that will drive or limit the conduct of virtually all science and engineering for the foreseeable future. The PARAGON operates in a secret environment, therefore making it necessary to develop a local, classified ATM network within the NRaD community. Gateways to users at other sites via the DREN will be via "FASTLANE" ATM encryption.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)	A. FY 1999 President's Budget	
B. Navy/Research and Development/NCCOSC	C. L0004 - Supercomputer - New Mission (Page 2)	D. NCCOSC

Justification: (cont)

Increased HPCN capability in DOD is needed to raise performance levels in C2 and advanced, embedded military computing systems, to pioneer cost reductions in these systems, and to enhance the opportunity for commercialization of computational products by other sectors. This is an initiative by the Office of the Director of Defense Research and Engineering and is summarized by the "DOD High Performance Computing Modernization Plan (HPCMP)", 1992-present. In it, specific functions and applications fundamental to progress in scientific and technology (and test and evaluation) areas of interest to the DOD were assessed. The requirements were found to far exceed current DOD capabilities. The NraD response to this initiative was acquisition of the PARAGON and the EXEMPLAR. These systems were selected based on the following criteria: contribution to DOD mission, synergism with science and technology R&D, technical merit, organizational commitment to HPC, cost efficiency, complementing DOD long-range goals, readiness, and track record. The PARAGON has been the foundation of a secure signal processing facility since its acquisition in FY 1993. Its architecture and design of its processors have made it extraordinarily beneficial for our surveillance programs, leading to a system upgrade and plans to acquire an unclassified system from the HPCMP program. This will permit easier access to this system by our researchers who are developing algorithms for embedded applications, and will facilitate migration of these codes to the new machine(s) we plan to acquire in FY 1999 and beyond. The EXEMPLAR is a parallel supercomputing extension to the Tactical Advanced Computer (TAC-4). It will support development of parallel tactical information integration and display technology software via using the TAC-4 processors. Other commercial parallel and sequential computers were also considered. However, the EXEMPLAR met the current and projected requirements, its computing power could be obtained elsewhere for the comparable price, and existing and planned TAC-4 installations in the fleet are candidates for upgrades to such parallel processing capability.

Funds will be used to increase the current capability of the HPCN environment at NRaD - i.e., the DOD EXEMPLAR and PARAGON computational systems, visualization systems and ATM networking. In addition, network access to these systems and other DOD systems nationwide will be facilitated for NRaD scientists and engineers. Parallel processor upgrades (additional disks, memory, and processing nodes and an archival storage system), visualization peripherals, high-speed networks and other system enhancements will be acquired. The HPCN Backbone must also be extended to the new campuses.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0004 - Supercomputer - New Mission (Page 3)	D. NCCOSC

Justification: (cont)

The backbone extension and upgrade will take place over a two to three year period and involves the purchase of new switching equipment, routers, and management tools. Effectiveness of NRaD's HPC systems increases dramatically as these machines are upgraded with additional new processors, memory, and auxiliary storage. The EXEMPLAR and PARAGON have become integral components of ongoing NRaD programs across our C4I mission area, and upgrades are required to permit the broad scientific and engineering work across the laboratory and DOD to attain the increased productivity such upgrade and enhancement offers. The existing HPCN capability will thus be upgraded with addition of a new system (with capital assistance from the DOD HPCMP) for general laboratory-wide use, allowing a natural migration of all of HPC users and their computing tasks to a scaleable, parallel machine offering dramatically improved capability and corresponding efficiencies in the performance of mission area tasking.

The alternative to increasing the capability of these computational systems, scientific visualization systems, and ATM networking at NRaD is: obsolescence of these current systems and networks which support NRaD and DOD projects; or acquire systems outside the HPCMP. The former is an unacceptable degradation of NRaD capabilities and the latter would be far more expensive to NRaD than leveraging the NRaD HPCN expertise, the substantial NRaD and DOD investments to date, and the DOD capitalization funding available for upgrades and additions to the capability of existing systems.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0005 - Electronic Briefing Theater Productivity

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment						658						
Installation						80						
Testing						24						
TOTAL						762						

Justification:

This project is to provide the NCCOSC In-Service Engineering East Coast Division (NISE East) a central briefing theater with the capability of displaying live video, still pictures (slices and overhead projection source material), and audio presentations. The theater arrangement allows large numbers of people to gather to hear the same presentations, and provisions are made for some interactive sessions through built in microphone and video systems.

The equipment will consist of ceiling mounted video projectors, high quality monitors, VTC subsystems, and theater audio equipment. Telephone and full video teleconferencing connectivity will also be installed. Soundproofing is required to isolate the room from surrounding spaces. Functions such as room lighting, curtains, video/audio projection computer monitors, graphics presentation devices, and sound will be controlled by a central control panel.

The electronic briefing theater will permit large groups of NISE East customers and personnel to meet efficiently and be provided with the same presentation. This is becoming increasingly important in a large organization that is geographically distributed. NISE East's headquarters organization, SPAWAR, has been relocated to San Diego, along with its program management functions. To support the team concept to bring the full spectrum of talents together for rapid execution of projects, it is becoming increasing important to have an effective means to bring the different disciplines together, even if electronically. This is the purpose for which the theater is envisioned. NISE East will be able to lend its expertise and program execution abilities to the SPAWAR/NCCOSC team while saving travel costs and time.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0005 - Electronic Briefing Theater Productivity (Page 2)	D. NCCOSC

Justification: (cont)

In addition, the ability to rapidly share, modify and transmit data and documentation will ensure all team members have the latest information of the project. The project is intended to permit the advantages of video teleconferencing to be extended to electronically enabled conferences without requiring an increase in support personnel. The cost advantages of video teleconferencing are well established, as it allows personnel to avoid turning an one hour scheduled meeting into an eight hour travel day plus associated airfare and per diem expenses. Our recent acquisition of dial up teleconferencing permits us to schedule DCTN and FTS-2000 dialup and multipoint conferences for all existing studio and video cart mounted assets.

This alternative was selected reviewing the equipment currently available and determining what would be needed to augment them to provide the required capabilities.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)	A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC	C. L0006 - Video Teleconferencing Center - Productivity	D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment						558						
Installation						200						
Testing						24						
TOTAL						782						

Justification:

The purpose of this project is to provide the NCCOSC In-Service Engineering East Coast Division (NISE East) Charleston South Carolina a single control center for video, satellite, and networked video services throughout NISE East that will be capable of originating, receiving, and distributing studio and desktop video teleconferencing signals throughout NISE East. As the number and types of independent video conferencing assets (desktop, studio, and roll around cart) increase, it is essential to connect each user or users while keeping connection costs down. This can be accomplished by placing the networking and dial up capabilities in a central location accessible to all subscribers. The following services are considered in the analysis:

Dial up video teleconferencing: Recently the NISE East video teleconferencing center extended its studio capability to access government video network by connecting to the Defense Commercial Telecommunications Network (DCTN) and FTS-2000. These networks allow NISE East to access federal defense and commercial video teleconferencing centers throughout the world.

Switched digital services: The NISE East VTC has the capability to access any system via switched digital service (SDS) which allows immediate access through a dial up network. NISE East can provide multipoint SDS conferences with up to six (6) participants simultaneously and can provide this service to internal customers or external subscribers. This dial up capability provides immediate video access to the NISE East network and to counterparts SPAWAR and NCCOSC in San Diego.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0006 - Video Teleconferencing Center - Productivity (Page 2)	D. NCCOSC

Justification: (cont)

Desktop video teleconferencing: Currently, desktop teleconferencing is moving out of the test and evaluation stages with a reduction in prices and increased availability of compatible equipment. This technology is rapidly being infused into NISE East to support certain programs and projects, and complements SPAWAR initiatives to establish virtual program offices.

Electronic boardroom: This facility will combine meeting room capabilities with the ability to electronically enable the transfer of supporting information including video teleconferencing, electronic presentations, 35 MM slides, electronic whiteboards and collaborative review, mark up and edit of electronic documents. (see project L0013)

Satellite: NISE East currently has an initial capability to provide distance learning opportunities in which we can receive video signals and provide one or two way audio sessions. The electronic distribution of training material applies to both commercial and DOD training requirements. Current customers include telemedicine (VTC medical procedures) and Department of Energy downlinks.

This project will acquire supplemental equipment and materials to locate our existing multipoint control units supporting dial up and switched video teleconferencing currently used to access DCTN and switched digital services in an integrated control center capable of combining distributing the various video sources.

This facility will provide immediate video teleconferencing access in point to point or multipoint capabilities (up to 25 sites), monitor video systems, provide electronic data transfer through video, support all electronic boardroom capabilities, video screen projection capabilities, dial up cart mounted video teleconferencing systems and video network capabilities to establish a NISE East VTC hub and control center.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0006 - Video Teleconferencing Center - Productivity (Page 3)	D. NCCOSC

Justification: (cont)

This project is intended to permit the advantages of video teleconferencing to be extended to any video, satellite, or electronically enabled conference without requiring an increase in support personnel. The cost advantages of video conferencing are well established, as it allows NISE East personnel to avoid turning a one hour scheduled meetig into an eight hour travel day plus associated airfare and per diem expenses. Our recent acquisition of dialup teleconferencing permits us to schedule DCTN and FTS-2000 dialup and multipoint conferences for all existing studio and video mounted assets.

The integration of switching and control systems in a single location will allows NISE East to require only one technical support person (since the associated equipment will be co-located in one place) instead of three, and that person will be able to control all associated services for all serviced locations.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)	A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0007 - Security System Extension - New Mission | D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment Installation Testing							1	600	600			
TOTAL									600			

Justification:

The NCCOSC RDTE Division (NRaD) has an integrated security system that combines access control, CCTV camera monitoring, and intrusion detection alarms into a comprehensive system providing electronic security for a major portion of the installation. This system does not, however, extend to a remote portion of the installation located approximately 8 miles away. This remote location requires the same effective security system to address illegal trespass and general security of classified and sensitive information areas, but has an assemblage of non-integrated systems that make integration very difficult.

There is a requirement for card readers, numbered keypads, alarm sensors, Closed Circuit Television (CCTV) cameras, microprocessor-based distributed wall panels, and intercom units that will permit upgrading the security of the additional portion of the NRaD installation.

The proposed extension of the current integrated electronic security system will: provide automated electronic access control to the remote site perimeters, buildings, and spaces; permit monitoring alarm conditions at any of these areas; and provide CCTV cameras for monitoring and assessing incidents at those locations. This will allow the current monitoring force at the NRaD main site to monitor the remote area.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0007 - Security System Extension - New Mission (page 2)	D. NCCOSC

Justification: (cont)

Existing security systems at the remote site are not integrated to permit easily managing all functions with minimal personnel. Installing the new equipment as an extension of the configuration at the main portion of NRaD will provide interoperability among sites, and will allow existing guard force monitoring personnel to operate the system.

The alternative to upgrading the security systems at the remote area is to continue using currently installed equipment and add-on as necessary to support new requirements. As more personnel move into the remote site and more security equipment is required to support their projects, operating costs will continue to increase.

The alternative selected was based on minimum operating cost and improved maintainability. Continuing to use separate non-integrated security systems will be more difficult to administer and maintain.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0008 - Electronic Boardroom - Productivity

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment									480			
Installation									160			
Testing									40			
Software									100			
TOTAL									780			

Justification:

The purpose of this project is to provide the NCCOSC In-Service Engineering East Coast Division (NISE East) a central conference style room with the capability of displaying live video, still pictures (slides and overhead projection), and interactive electronic documentation. By using a facility such as this, senior management or project personnel can gather at separate locations and share concepts, drawings, and documentation in real time. Electronically transmitted media can be reviewed, revised, and retransmitted in real time through the use of the "Groupware" capability to electronically share documents.

This facility will combine meeting room capabilities with the ability to electronically enable the transfer of supporting information, including video teleconferencing, electronic presentations, 35 MM slides, electronic whiteboards, and collaborative review markup and edit of electronic documents. This facility will be provided technical control services from a centralized control center.

The equipment to be procured will include electronic whiteboards, high quality monitors, electronic conferencing software, VTC subsystem and video matrix switch. The boardroom will require LAN, ADP, telephone and full videoconferencing connectivity. Soundproofing is required to isolate the room from surrounding spaces. Controls for room lighting, video/audio projection and conferencing systems will be integrated into a single control panel.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)	A. FY 1999 President's Budget	
B. Navy/Research and Development/NCCOSC	C. L0008 - Electronic Boardroom - Productivity (Page 2)	D. NCCOSC

Justification: (cont)

This control panel will allow switching from computer monitors, graphics presentation devices, video codecs, and cameras to the projection screen. The control panel will also control audio levels.

The electronic boardroom will facilitate rapid response to emerging customer-driven requirements allowing NISE East to assemble the required expertise and support self-directed project teams without regard to the physical location of team members. Using enabling technology from commercial sources, persons using the facility will be able to share documents by printing local copies at the team members respective locations, displaying, modifying, or marking up documents, slides and data on large screen displays and on interactive workstations, and providing video teleconferencing technology for near face-to-face contact.

NISE East will be able to lend its expertise and program execution abilities to the SPAWAR/NCCOSC team (largely located in San Diego) while saving travel costs and time. In addition, the ability to rapidly share, modify, and transmit data and documentation will ensure all team members have the latest information on the project. This project is intended to permit the advantages of video teleconferencing to be extended to electronically enabled conferences without requiring an increase in support personnel. The cost advantages of video conferencing are well established, as it allows NISE East personnel to avoid turning a one hour scheduled meeting into an eight hour travel day plus associated airfare and per diem expenses. Our recent acquisition of dialup teleconferencing permits us to schedule DCTN and FTS-2000 dialup and multipoint conferences for all existing studio and video mounted assets.

This alternative was selected by first examining what equipment is presently available and what would be needed to augment them to provide the required capabilities.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0009 - Digitized Retrievable Database - Productivity

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment										1	302	302
Installation										1	274	274
Testing										1	24	24
TOTAL										1	600	600

Justification:

A digitized, retrievable database (DRD) is required to retrieve, access, and view the Naval Command, Control and Ocean Surveillance Center RDT&E Division (NRaD) collection of scientific and technical information. This collection consists of more than 50 years of reports, photographs, videos, and films that provide scientific and technical information related to the Navy's (and specifically NRaD's) mission areas. Using a nonproprietary, open-architecture design, the DRD will use high-confidence, low-risk technologies and off-the-shelf hardware and software to provide desktop access 24 hours per day to this information. Access to the collection (1,200,000 pages of technical reports, 350,000 photographs, 16,630 minutes of film, and 78,000 minutes of video) will be provided by searches that use semantic, fuzzy text, and object retrieval technologies.

At this time, NRaD has no capability to digitally retrieve, search, and view its collection of scientific and technical information. Access to reports is provided only in hard copy after a key-word search; few of these reports are indexed, which means that the information must be obtained by reviewing the entire document. In addition, as many of the older reports that date from World War II are very fragile, their expected lifetime is very short. Many of these reports contain information required for mission areas such as littoral surveillance. Access to photographs is provided by physically searching and looking at prints and negatives, some of which date to the late 1800s.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0009 - Digitized Retrievable Database - New Mission (page 2)	D. NCCOSC

Justification: (cont)

Access to films and videos is provided by searching the logbooks and then viewing the films and videos by using either a reel projector or a VCR.

All of these processes are time-consuming for both the NRaD's scientific and technical personnel and its technical information staff. In addition, the corporate memory for locating pertinent information is being lost because of retirements.

The DRD will provide desktop access on a 24-hour basis to the NRaD's collection of scientific and technical information. Information will be available through semantic, fuzzy text, and object retrieval technologies. Scientists, engineers, and support personnel will be able to search and view reports, photographs, films, and videos for pertinent information and, if necessary, download and print the required information.

By providing digital access to the NRaD's collection of scientific and technical information, the DRD will provide scientists and engineers with efficient and fast access to the information necessary for supporting their projects. It will also

- Reduce costs to DoD and, particularly, to NRaD.
- Reduce the need to reinvent technology by avoiding duplication of work.
- Provide better capabilities for sharing information among DoD activities.
- Make scientific and technical information available 24 hours per day.
- Protect the Navy's interests by making information available for purposes such as patent litigation.
- Prevent the further deterioration of irreplaceable records.

Because information must be accessible to be useful, NRaD must have a system that provides fast and efficient access to its collection of scientific and technical information. Only a system that relies on digitized data that is available by semantic, fuzzy text, and object retrieval search technologies can provide such access.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0009 - Digitized Retrievable Database - New Mission (page 3)	D. NCCOSC

Justification: (cont)

The only alternative is to continue the *status quo*, which requires labor-intensive searches of the collection of scientific and technical information. Because of the deterioration of the older reports, much of this information may not be available within a few years.

This is the only alternative available. To ensure that the correct software and hardware are selected, technical information personnel have researched, and will continue to research, the advantages and disadvantages of various hardware and software. This research has involved on-site demonstrations, literature reviews, trade show visits, and liaison with NRaD's computer support personnel. There has also been a study of available technologies and processes by a team of experts in the field of digitally retrievable information.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)								A. FY 1999 President's Budget				
B. Navy/Research and Development/NCCOSC				C. L0010 - Backbone Capacity Upgrade - Productivity						D. NCCOSC		
	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment										20	30	800
Installation											75	75
Testing											75	75
Software										15	3	45
TOTAL												995

Justification:

This procurement is for a high bandwidth switching system to handle increasing network loading at the NCCOSC In-Service Engineering East Coast Division (NISE East).

Computer applications and operating systems have shown a clear path of increased system requirements and processor power. Specifically, these demands provide an increasing demand on existing infrastructure and are stretching the capabilities of NISE East hubs, routers, and servers. With the upcoming added requirement of Computer Based Training (CBT), Desktop Video Teleconferencing (DVTC), on demand video, complex databases, larger file formats, and various security/monitoring issues, we project the need to test and implement newer technology for increased system capacity. Several technologies are under development which provide promising capabilities. These include gigabit ethernet, duplex ethernet, fast ethernet, ATM, SONet, and Frame Relay. All of these technologies provide specific advantages and disadvantages so it becomes necessary to test and evaluate which technology provide the best cost benefit to NISE East. To effectively test these technologies it is required that consideration be given to the existing user base as well as a projected growth path. With this in mind a figure of 5,000 users has been identified for capacity planning.

This system is needed to provide the growth path for all network users based on anticipated bandwidth requirements and will provide network connectivity all computer users at NISE East. Failure to provide this system would result in work stoppages caused by network bottlenecks, actual prevention of logging into corporate data servers, and the loss of productive man-hours.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0011 - Management Information Data Server - New Mission

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment										1	240	240
Installation										1	36	36
Testing										1	36	36
Software										20	10	200
TOTAL												512

Justification:

This procurement is for a production computer based system (server, disk drives, software, database, Network Interface Card (NIC), etc.) needed for the Management Information Data Server (MIDS) at the NCCOSC In-Service Engineering East Coast Division (NISE East). This will include the initial software installation and basic hardware system needed for legacy information as well as new issues such as the Standard Procurement System (SPS).

Equipment to be procured include the Server (computer, disk/tape drives, Uninterruptible Power Supply (UPS), NIS, etc.) and $200K for required software (operating system, database (Oracle), backup, bridges, etc.). Compatible hardware and software will be procured to assure cost effective use of existing components.

The current information system is only capable of handling just over 200 users. All others attempting to access the system once this number is reached are denied access. This situation puts numerous people in a situation of not being able to be productive. Procurement of a new more robust system will eliminate this problem. In addition, the existing system would then be converted into a test/backup platform, which does not exist at this time.

These items are used daily by numerous people to extract financial information, input travel requests, track minor property, etc. All NISE East employees depend on this system on a continuous basis. Should it go off line, productivity drops significantly costing several thousand dollars per hour of lost productivity. Procurement of a new system will allow the conversion of the existing system to a backup system (no backup system exists today) as well as a test platform (which does not exist today) thus avoiding the cost of procuring 2 additional systems.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0011 - Management Information Data Server -New Mission (page 2)	D. NCCOSC

Justification: (cont)

This system is considered mission critical to the operation of NISE East. NISE East is experiencing daily productivity losses due to the system operating at capacity, thus denying access to numerous users. In addition, this will allow new DoD requirements such as SPS, Travel manger Plus (TMP), etc., to be integrated into a single platform thus eliminating the need to hire additional personnel and/or exercise multiple maintenance contracts to meet these new mandates.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)							A. FY 1999 President's Budget					
B. Navy/Research and Development/NCCOSC				C. L0012 - Document Imaging and Retrieval - Productivity						D. NCCOSC		
	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment										Var		208
Installation												396
Testing												25
Software										Var		33
TOTAL												662

Justification:

The purpose of this project is to provide rapid access to NCCOSC In-Service Engineering East Coast Division (NISE East) contractual, financial, and public documents via electronic media. This will increase productivity, and ultimately reduce daily operational costs by imaging documents and storing them with the ability to retrieve them on demand. In addition to eliminating the need for bulk storage of active documents with multiple copies in various locations, cost savings will be realized by providing the most efficient and economical means to retrieve the documents as required with no additional hardware requirements at the users location.

Funding will be utilized to procure and install the system which consists of the following:

- Optical Jukebox for storage
- RAID Controller and Hard Drives for fast access cache
- Windows NT server and Image server for network access
- Scanners for storing new documents in electronic form
- Client software for retrieval
- Server software
- Imaging software

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0012 - Document Imaging and Retrieval - Productivity (page 2)	D. NCCOSC

Justification:

Installation costs consist of physically installing the hardware as well as scanning 3 million 8 1/2" X 11" sheets. Current active contractual documents consist of 982,000 sheets. Inactive but not closed contracts consist of 885,000 sheets. Financial documents consist of approximately 500,000 sheets.

NISE East contracts and finance departments alone use approximately 1,000 linear feet of shelf space to store data. Imaging the data and making it available via electronic media will significantly reduce the required shelf space. When a contractual document is required by a technical code time is expended locating, duplicating, delivering, and tracking the correct documentation. Using the electronic document retrieval system, technical personnel can locate and retrieve the documentation saving time and increasing productivity. Current technology allows documents to be stored on Write Once Read Many (WORM) optical disks. One disk provides 1.5GB of storage which is equivalent to 16,000 sheets of 8 1/2" X 11" paper. Data written to these disks cannot be altered or erased and has a life expectancy of 50 years, which is suitable for statutory archive purposes.

Retrieval of data from optical media is not as rapid as retrieval from other media. To minimize the time required to retrieve frequently accessed data (such as current year funding and contract documents across the enterprise), a hard drive array will be required to operate as cache. The imaging server will be configured to include software to manage the data on both the hard drive array and the optical jukebox in a manner that is transparent to the user. Software tracks the most frequently accessed data and places this information on the hard drive array for speedy retrieval as well as removing unused data to alternate (although slower) storage locations. The configuration selected provides for 50 users to access the storage device at a time. The storage potential for the system is 500 GB which is approximately 10 million 8 1/2" X 11" pages, which is adequate to operate the system for three years without upgrades.

Several alternatives were considered. The status quo will result in increased demand for storage space for active and archived documents. No productivity enhancements (and probable productivity losses) will result. Various types of electronic storage and retrieval systems (Film, Magnetic Disk, and Magnetic Reel) were also considered as alternatives.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0012 - Document Imaging and Retrieval - Productivity (page 3)	D. NCCOSC

Justification:

However, due to the amount and type of data and documents that we are targeting to store and retrieve, the optical jukebox with hard drive array cache provides a low cost solution that is accessible regardless of location with no special access terminal requirements. It also protects the data by not allowing anyone to change it after it has been scanned and stored. The software required to retrieve the documents will operate on Windows 3.1 as well as Windows NT, which is consistent with current NISE East desktop software. Maintenance will be required for this system; however, maintenance is less for this system than any of the alternative systems considered.

The software chosen was selected for the following reasons:

a. Object Linking and Embedding (OLE) compliant, which allows extracts of scanned documents to be copied into current working documents
b. ODBC compliant, which allows for standard, non-proprietary database access products to locate desired documents
c. Windows based applications software consistent with Command standard desktop software applications
d. Easy to use
e. Widely installed throughout industry and government facilities
f. Multiple levels of security to the document level to restrict access to persons with a need to know
g. Commercial off the shelf (COTS) products are used throughout

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0013 - DIFMS Conversion Effort - New Mission

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quan	Uni t	Total Cost
Equipment						98						
Installation						589						
Testing												
Software						1,679			2,833			
TOTAL						2,366			2,833			

Justification:

This project supports the implementation of the Defense Industrial Financial Management System (DIFMS) at the Naval Command, Control and Ocean Surveillance Center (NCCOSC). DIFMS is the interim migratory accounting system for NWCF R&D activity group activities selected by the Department of Defense. NCCOSC is scheduled for conversion to DIFMS in January 1998. NCCOSC conversion tasks include the following: data mapping between DIFMS and the existing NCCOSC accounting system data elements, transaction mapping, testing, data conversion, data upload, and program management. In order to maximize DIFMS, a material management and time and attendance system is being implemented in conjunction with DIFMS.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0014 - DIFMS/NIMMS/T&A Reengineering - New Mission

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Software Installation Testing							1	528	528	1	272	272
TOTAL									528			272

Justification:

The NAVAIR Industrial Financial Management System (NIFMS) is the Department of The Navy's Depot Maintenance and Research and Development (R&D) Navy Working Capital Fund (NWCF) interim migratory accounting system. It was recommended by the Defense Working Capital Fund (DWCF) Policy Board (formerly the Defense Business Operation Fund (DBOF) Corporate Board) and selected by the Under Secretary of Defense (Comptroller). This system was selected to support the Department of Defense initiative to reduce the total number of accounting systems. Additionally, the Department of the Air Force has selected NIFMS as their accounting system for the Air Logistic Centers. The Defense Finance and Accounting Service (DFAS) will change the name form NIFMS upon transfer of ownership to DFAS from the Navy. The new system will be the Defense Industrial Financial Management System (DIFMS).

The current version of DIFMS is a ten-year-old DMS-1100 hierarchical data base management application hosted on UNISYS mainframe computers at the Defense Megacenters. The reengineering of DIFMS to a relational database technology, using modern programming language in a client-server architecture, will reduce software coding by 30 percent, which will simplify future system changes. This will reduce maintenance costs, improve system flexibility, improve data accessibility, enhance ad hoc reporting capability, increase system performance, consolidate systems, add increased functionality/capabilities, and improve overall reliability. Additional, the reengineered DIFMS will maximize user-friendliness, as well as functionality/capabilities, across multi-vendor platforms.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0014 - DIFMS/NIMMS/T&A Reengineering - New Mission (page 2)	D. NCCOSC

Justification: (cont)

DFAS, Air Force and Navy have agreed to share the cost of reengineering DIFMS equally. The NAVAIR Industrial Material Management System (NIMMS) and DIFMS Time and Attendance module will also be reengineered due to the integration of both of these modules within DIFMS. This request contains only the Navy's portion of the DIMS, NIMMS and DIFMS T&A reengineering effort.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)												
							A. FY 1999 President's Budget					
B. Navy/Research and Development/NCCOSC				C. L0015 - Cash Model License - New Mission						D. NCCOSC		
				FY 1997			FY 1998			FY 1999		
Element of Cost				Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment Installation Testing												
TOTAL							2	6	12	1	6	6

Justification:

In order to improve Navy Working Capital Fund cash projections, this activity group will purchase site licenses for a centrally procured cash projection model software package for NWCF activities.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)												A. FY 1999 President's Budget		
B. Navy/Research and Development/NCCOSC				C. L0016 - Corporate Business Systems - Productivity								D. NCCOSC		
				FY 1997			FY 1998					FY 1999		
Element of Cost				Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost			Quant	Unit Cost	Total Cost
Equipment Installation Testing												1	2000	2000
TOTAL												1	2000	2000

Justification:

The Naval Command, Control and Ocean Surveillance Center (NCCOSC) has a Corporate Information System. Existing Corporate Information System computer applications supporting business processes (including procurement, material management, personnel, security, and base level business functions) require modification to interface with a centralized data repository. In addition, many existing business processes (such as transportation, receiving, and approval of paper documents) are accomplished manually or via obsolete semi-automated legacy systems which are not efficient and do not allow NCCOSC to capture data in a centralized repository. NCCOSC proposes to develop new automated applications and reengineer existing applications to support these business processes.

These automated and manual applications will be combined into an automated Corporate Business System (using a Corporate Database) to provide NCCOSC with access to automated business systems to effectively and efficiently accomplish the full spectrum of daily business functions. The Corporate Database will provide a consistent format and source of data for NCCOSC, as its data will be shared among applications and will serve as a central source for queries and reports for NCCOSC. These systems will also give the user community expanded access and summarization capabilities within the Corporate Database. The NCCOSC user base is expanding geographically to various locations throughout the United States and the world. It is critical that the NCCOSC user base be provided with this connectivity to corporate data and automated NCCOSC Business System applications.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0016 - Corporate Business Systems - New Mission (page 2)	D. NCCOSC

Justification: (cont)

Alternatives considered included continuation of the status quo as well as research into commercial off-the-shelf products. The commercial off-the-shelf alternative was not feasible as an appropriate candidate to effectively work with and enhance existing systems. The selected alternative was determined to be an improvement over the status quo in terms of both cost savings and improved functional capabilities.

This project will result in annual savings of $575K by replacing existing manual and inefficient automated processes, reducing labor and contract support costs.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0017 - Rehost of Satellite Signal Generator (SSG) - Productivity

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment Installation Testing										1	115	115
TOTAL												115

Justification:

This project will allow the Naval Command, Control and Ocean Surveillance Center RDT&E Division (NRaD) to re-host the Satellite Signal Generator (SSG).

There are known deficiencies in the SSG control software, which causes the unit to crash or insert uncontrolled errors into its output under a variety of circumstances. The problems are related to deficiencies in both the software design and limitations of the platform on which the software executes. Correction of these problems would eliminate the need for expensive work-arounds (test redesigns, goal abandonment) and provide significant increases in the efficiency of laboratory operations.

The NRaD Central Engineering Activity (CEA) test activities (in fact, all NRaD Global Positioning System (GPS) test activities) revolve around the SSG and its ability to produce tailored GPS signal environments on demand. Deficiencies in the SSG have a disproportionately powerful effect on CEA operations. Persistent, yet unpredictable, error conditions in the SSG often require numerous reruns of the same test procedure before reliable data can be collected, increasing the costs for testing.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0017 - Rehost of Satellite Signal Generator (SSG) - Productivity (Page 2)

D. NCCOSC

Justification: (cont.)

The reduction in down-time and increases in efficiency in laboratory operations accrued from correcting SSG problems are significant not only in terms of schedule but dollars. Since its development at NADC (circa 1985) the SSG has enjoyed wide success as a commercial product, sold extensively to companies with government contracts. These units suffer from the same deficiencies as the NRaD units, aggravated by poor support from the manufacturer. Therefore, a rehosted SSG, executing government certified and supported software, represents a valuable product to the GPS community and a source of reliability and accuracy in results. Development of software to rehost the SSG is a logical step in positioning the CEA to respond to current Navy program requirements.

ACTIVITY GROUP AREA CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0018 - Engineering Management System - New Mission

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment										1	250	250
Installation										1	30	30
Testing										1	50	50
Software										1	2,500	2,500
TOTAL												2,830

Justification:

The Naval Command, Control and Ocean Surveillance Center In-Service Engineering East Coast division (NISE East) manages projects for both DoD and non-DoD customers, plans, and executes multiple concurrent programs, projects, and tasks on behalf of its customers. NISE East project engineers assume centralized responsibility for:

- Budgeting and cost management
- Scheduling
- Resource allocation (labor, equipment, warehouse space, etc.)
- Material acquisition
- Technical quality assurance
- Client, customer and public relations

To properly coordinate and manage, the project engineer must have access to a wide spectrum of corporate data to plan, execute, and status the milestones leading to the successful completion of the task, project, or program.

The purpose of the Engineering Management System (EMS) is to provide an information gathering and fusion function to directly assist the project engineer to plan, execute, status, and report on all projects under his/her cognizance. In addition, the EMS will provide the data aggregates required by supervisory personnel at the branch, division, and department level for use in performance measurement, resource allocation, business trend analysis, and asset planning.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0018 - Engineering Management System - New Mission (page 2)	D. NCCOSC

Justification: (cont)

Further information aggregates would be available at the command level for internal policy planning, contingency management, and impact assessments. This document identifies high level functional requirements necessary for the appropriate internal operations of the EMS as well as necessary interface requirements to the approved Authorized Accounting Activity (AAA) accounting system. It should be noted at this point that the EMS system is not intended to perform ANY core accounting functions, rather, it is intended to interface to the installed financial system to gather financial execution information. Here are the major functions assigned to the EMS:

- Customer Marketing/Contacts Management
- Project Proposal Management
- Project Cost Estimation
- Material, Contract and Services Acquisition Management
- Fleet Scheduling Information
- Project Management (including Customer and project work breakdown structures)
- Post Installation Support Life Cycle Management

User Characteristics:
The system user community will consist of those individuals and organizations across the claimancy who are responsible for project management and engineering. The EMS should be designed to assist NISE East project engineers and management in meeting their business objectives including: quality service to customers, timely response to customer inquiries, and management of ship and shore installations. The EMS shall incorporate the following functional areas: Marketing/Contacts Management, Proposal Management, Cost Estimation, Acquisition Management, Fleet Information, Project Management, and Life Cycle Management.

User Environment:
The approach will be to deploy common business practices across the claimancy by using a common suite of information systems, including the Engineering Management System. The key to an integrated systems environment is the ability to gather information from external, specialized financial and logistics systems and to present the information to the project engineer as a *project* view of the effort, not an accounting view of an otherwise unrelated collection of transactions.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0018 - Engineering Management System - New Mission (page 3)	D. NCCOSC

Justification: (cont)

General Interface Requirements:

NISE East should have a single integrated software package to meet the information needs of the project engineer. The integrated package should be unified, seamless, and inter-operable, interfacing with, but not incorporating, applications serving the functions of core accounting, contracting, travel and personnel management, information, logistics, and other applications and tools.

The EMS relies on an external core accounting application to provide/maintain funding and other financial accounting information and processes. The interface between the EMS and core financial system is bi-directional. The EMS initiates financial process queries within the core accounting system such as commitment transaction posting resulting from the creation of an acquisition document, and therefore must provide information to this application. In return, the core accounting system should provide notification of financial posting errors such as fund request rejection due to budgetary limitations or notification that funds were available and a commitment has been processed. When the status of funding is at issue, interface between the EMS and the core accounting application must be real-time, not batch.

Contracts management, travel management, and personnel applications maintain information supporting the proposal management, cost estimating, and contacts management subsystems. Information not provided by these applications but needed by the EMS subsystem must be provided by the EMS or by modification to the applications supporting the EMS. Examples of information to be interfaced to the EMS include:

- Contracts management - provide open contracts, subcontractors, contract labor categories and rates, contract expiration dates, and contract limits
- Travel management - provide allowable government per diem rates and estimated travel costs
- Personnel - provide employee labor categories, stabilized rates, employee availability, employee schedules, training, and skills
- Automated Ship Information System (ASIS) - must interface ship installation and maintenance schedule
- Spending Plans - provide a comprehensive view of all funding received to execute a project, across multiple fiscal years, and display the current status in a form suitable for reporting to a sponsor.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0018 - Engineering Management System - New Mission (page 4)	D. NCCOSC

Justification: (cont)

- Status of Project Materials - provide a comprehensive or selective rollup of status on all bills of material identified as associated with a project. Provide "templates" of preconfigured systems for rapid reorder or the assembly of sets, kits, outfits and systems
- Work Breakdown Structures - provide a unified, Command wide work breakdown structure to identify different phases of a project for reporting and control.
- Provide high level, business decision support information of the form: "How much work are we getting from this kind of sponsor", or "How much of our work is being done on CINCPACFLT ships" or "Do we see shore based satellite work increasing"?
- Multiyear project Funding - provide birth to death, multiple year funding information for all projects.

There is no system at NISE East that provides a true project management function as outlined above. NISE East currently uses a variety of means to gather project related information from the accounting system. Since the accounting system was intended primarily for that function, it treats each transaction as a totally separate entity. Our engineers must locate each labor hour, travel, and material requisition and assemble project status information outside of the accounting systems. The current situation encourages the creation of outside spreadsheets, lodgers, and support service requirements to keep status on projects, especially the larger ones. In the case of very complex or large programs, support contractors are retained for the sole purpose of providing status on a project in a form that the engineer and the sponsor can relate to and make decisions about. Consider a large division providing telecommunications installation services for outside customers. Typically, a financial assistant is on staff. In addition, a support contractor cadre of four employees retrieve information to assemble project status. This does not take into account logisticians, engineers, and administrative aides who enter the basic information into the financial systems. Billing rates are, on average, $80,000 for senior support personnel. This amounts to an annual cost of $400,000 per year, for one division. There are four major divisions within the Command, each with at least one such team. This accounts for $1,600,000 in services just to assemble reports for sponsors and senior management. If the recurring tasks performed by these teams can be incorporated in an automated system that simply retrieves the information in a coherent manner, using existing logistics staff to continue to enter the raw information into the accounting and logistics support systems, allowing project engineers and managers to obtain project oriented reports, the system will pay for itself in cost avoidance in two years.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0018 - Engineering Management System - New Mission (page 5)	D. NCCOSC

Justification: (cont)

With a yearly estimated maintenance cost of $400,000, the system will pay for itself in two and a half years.

Obtaining a commercial industrial off-the-shelf program management system was considered. Unfortunately, such a system in not useful without basic information from the basic accounting functions of funds receipt, accounts payable, shipping and receiving. The requirement to interface with legacy defense accounting systems would force extensive modifications to the industrial program, at comparable cost and risk to developing the EMS and interfacing to our existing accounting systems.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0019 - Staging/Ready-Issue Facilities - Productivity

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment Installation Testing				5	95	475						
TOTAL						475						

Justification:

The NCCOSC In-Service Engineering East Coast Division (NISE East) leases approximately 60,000 square feet of commercial space to support ready-issue staging requirements. This allows short-fused, emergent requirements to be satisfied by NISE East Technical Codes in-house in an expeditious manner. The proposed project will eliminate this leased space while further enhancing response time to customers by providing the equivalent space located at NISE East space at the Naval Weapons Station, South Annex Charleston, South Carolina.

NISE East will be able to provide better service to its customers by the benefits realized upon relocation of this function the Weapons Station. In addition, the "generic design" of the facilities will allow adjustments as required between NISE East Technical Codes as work loads increase/decrease, thereby eliminating the cumbersome process of attaining commercial leases.

This project envisions the construction of six (6) 10,000 square foot facilities over a two year time span.

This project covers only the actual construction of the facilities co-located with the technical codes, which will be installed over a two year period.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0020 - Alteration/Upgrade of Building - Productivity

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment Installation Testing						290						
TOTAL						290						

Justification:

At the present time the NCCOSC In-Service Engineering East Coast Division (NISE East) has buildings located on the Naval Weapons Station, South Annex in Charleston South Carolina which are in need of alteration/upgrade due to age/deterioration. These building are currently used as laboratory space in support of Integration/mock up work. It is proposed that these buildings be upgraded in a "generic" fashion utilizing as many modular components as possible to support variable requirements as they arise with the Technical Codes. The utilization of "generic" modular components to satisfy requirements in the past has proven to be both cost effective as well as auspicious.

This project is to alter/upgrade building 3410, occupied by personnel supporting the Tactical Support Center communications (TSCOMM) Program.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0021 - Facilities Refurbishment and Improvement - New Mission

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment Installation Testing						29						
TOTAL						29						

Justification:

As a result of increasing mission capabilities at USACOM in Norfolk VA, additional space is required for equipment and personnel. These facilities are currently occupied by personnel assigned to the Tactical Commemorations Division of the NCCOSC In-Service Engineering East Coast Division (NISE East), which provides Interior Communication (IC) technical support, repair and training to numerous Navy and DoD activities in the area. The NISE East Technical Detachment facilities in Yorktown, VA can provide accommodations for personnel and equipment with minor building modifications and refurbishment. Co-location of administrative support will increase efficiency, and by maintaining IC capabilities in the local area, customer support will greatly improve.

This project will refurbish current facilities occupied by NISE East personnel in Yorktown, VA to accommodate the additional personnel from the Norfolk area. It will also provide facilities for administrative spaces, adequate communication/electronic capacity and training facilities to support the IC branch mission. This project will also result in the maintaining of IC support, repair capabilities and training platforms close to the customer and will increase the productivity of the technical support personnel and significantly reduce travel and administrative support.

BUSINESS AREA CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0022 - Hazardous Material Minimization Center (HAZMAT) - Productivity

D. NCCOSC

Element of Cost				FY 1997 Quant	FY 1997 Unit Cost	FY 1997 Total Cost	FY 1998 Quant	FY 1998 Unit Cost	FY 1998 Total Cost	FY 1999 Quant	FY 1999 Unit Cost	FY 1999 Total Cost
Minor Construction Installation Testing				1	447	447						
TOTAL					447	447						

JUSTIFICATION:

This project will design and reconstruct 335 M2 (3,600 SF) at the Naval Command, Control and Ocean Surveillance Center, RDTE Division (NRaD) facility in San Diego into a Hazardous Material Minimization Center (HAZMAT) that complies with the DOD mandated Consolidated Hazardous Material Re-utilization and Inventory Management Program (CHRIMP) for shore activities. The existing metal stud shell of the building must be demolished and reconstructed of masonry units to comply with applicable fire, safety and environmental requirements. The facility will be capable of receiving, inventorying, labeling, storing, and issuing for use the majority of hazardous material (HM) used at NRaD. The completed facility will provide the capability to centralize most of NRaD's HM, significantly reducing the associated risk of liability.

Currently, each hazardous material (HM) user code orders, receives, and stores HM at their facility and is required to maintain a current or real-time inventory for storage and use. A current ongoing inventory is not possible when several users throughout NRaD are tasked to coordinate inventories. These complications result in a non-compliance status for several programs related to HM management and pollution prevention practices. Physical liability is elevated with an excess of HM being stored at various locations. This results in unknown duplication and quantities of HM by codes, and an inordinate amount of time is expended by the user codes in attempting to perform the tasks related to HM management. NRaD presently does not have a building with adequate floor space that complies with the various HM related requirements.

BUSINESS AREA CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0022 - Hazardous Material Minimization Center (HAZMAT) - Productivity (page 2)	D. NCCOSC

Justification: (cont)

The Hazardous Material Minimization Center will maintain inventory control, exercise positive control, provide legitimate customer service, maintain financial accounts for HM, issue in usable quantity, accept unused HM, provide timely and accurate communication and reporting for Safety and Environmental reporting, and verify the ultimate end-use process. This facility will reduce storage requirements necessary to currently store HM at the user facility.

DOD and DON mandate a facility of this type. The facility is designed to support all aspects of CHRIMP. When staffed, the operation will enable NRaD to comply with the applicable regulations at practical levels.

One alternative considered is to maintain the status quo, with each user code ordering and storing HM and attempting to maintain adequate records of HM stored and used. The present system and any less of a proposal will not provide the necessary tracking and accounting of HM, preventing compliance with CHRIMP.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)								A. FY 1999 President's Budget				
B. Navy/Research and Development/NCCOSC				C. L0023 - Library Air Conditioning - New Mission						D. NCCOSC		
	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Tot Cost	Quan	Unit Cost	Total Cost
Equipment Installation Testing							1	250	250			
TOTAL									250			

Justification:

A new system to provide air conditioning and environmental controls is required for the Naval Command, Control and Ocean Surveillance Center RDT&E Division's (NraD) Library. A central system with appropriate power supply will be designed and procured to provide proper temperature, humidity, and dust controls to protect the Library's valuable and unique collections of books, periodicals, maps and charts, and technical reports.

The NRAD Library's collections are deteriorating because there are no temperature, humidity, or dust controls in the building. Mold, mildew, and dust are causing increasing damage, such as curling pages, pages stuck together, and books covered with dirt. Many valuable and unique items have been discarded because of this environmental damage, and more will be lost in the future.

In one area of the Library, ineffective dehumidifiers run continuously in an effort to remove small amounts of excess humidity. Trays from the dehumidifiers must be manually dumped on a regular basis.

The proposed central system will provide proper temperature, humidity, and dust controls to preserve the Library's valuable and unique collections. The improved environmental conditions will also lengthen the life of the Library's large number of computers and will improve working conditions for the staff, many of whom suffer from allergy-related problems.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0023 - Library Air Conditioning - New Mission (Page 2)	D. NCCOSC

Justification: (cont)

The proposed system will be appropriate for the Library's environment and efficient from an energy and maintenance standpoint. The NRaD Library's collection is valued at approximately $12 million and is a major Center asset. Because the Library is also an archive for Center materials, including historical materials, many of the books, periodicals, maps and charts, and technical reports are unique and cannot be replaced. Others are very expensive to replace even if copies could be located. These materials must be protected by proper environmental controls to ensure their availability in the future.

San Diego's Point Loma area, because it is located between two large bodies of water, experiences particularly high humidity all year. This humidity and the area's variations in temperature have already caused significant damage to the Library's collections. In addition, because of the lack of air conditioning and the high temperature and humidity occurring during the summer months, windows and doors are kept open, which allows dirt to blow in (this is a particular problem during construction). Mildew, curling pages, pages stuck together, books covered with dirt, and other signs of damage have all been observed. Archival preservation requires that temperature, humidity, and dust all be controlled to minimize deterioration of the paper.

The proposed system is also needed to preserve the health of the Library staff. Most of the staff suffers from allergies due to mold, mildew, and dust, and a high level of sick leave is used because of these allergy-related problems. Better temperature, humidity, and dust controls would result in a significant decrease in sick leave and an improvement in productivity.

An evaluation by an architect and civil engineers in the NraD Facilities Office has determined that alternatives such as window units would not provide adequate temperature, humidity, or dust controls to protect the Library's collections. Window units would also be much less energy efficient than a centralized system and more maintenance would be required.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0023 - Library Air Conditioning - New Mission (Page 3)	D. NCCOSC

Justification: (cont)

The only other alternative to a new, central system is to continue to operate with no air conditioning or environmental controls. Because of the deteriorating state of the collections due to mold, mildew, dirt, and the high humidity of the Point Loma area, many valuable and unique items have been lost already and more will be lost in the near future if the situation is not corrected.

Only a central system will insure that the proper temperature, humidity, and dust controls are in place to preserve the Library's valuable and unique resources for future use. Window units do not provide the proper environmental controls, are not energy efficient, and require more maintenance.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0024 - Warehouse Building - New Mission

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment Installation Testing							1		275			
TOTAL									275			

Justification:

The NCCOSC Research and Development Division (NRaD) Hawaii requires 40,000 to 80,000 square feet of covered storage warehousing. NRaD Hawaii is to become the West Coast/Pacific Area Maintenance center for maintenance of all towed arrays for the Navy, increasing the need for storage space. Storage of Integrated Undersea Surveillance System Operation (IUSSOP) array module reels (6 feet in diameter and 6 feet wide) are now taking valuable space in the present location. Additionally, in the near future, the Pearl Harbor shipyard plans to relocate NRaD warehousing functions to another site located 12 miles away from the NRaD facilities at Pearl City Hawaii.

This project is to modify two existing roofed structures owned by the Marine Corps that have been offered to NRaD. These buildings are located 200 yards from the Pearl City facilities. Modification of existing structures would provide not only the required storage for the array reels but also accommodate the movement of the warehousing function from the shipyard.

Having warehouse structure located close to our present location vice the Shipyard will be cost effective, and direct labor hours spent traveling to and from Pearl Harbor Shipyard will be eliminated resulting in more time spent working directly on projects. Primary program sponsors being supported are Navy, Marine and CINCPAC and joint commands throughout the Pacific and Indian Ocean.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)		A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0024 - Warehouse Building - New Mission (Page 2)	D. NCCOSC

Justification: (cont)

This project replaces the one previously proposed. A year after submitting the initial justification for constructing a PEB (Pre-Fab Engineering Building), the situation has changed wherein we are being offered ownership of existing roofed buildings that are located in the immediate area to our present location.

Considered alternatives:
Status Quo: Array reels presently located in existing location take valuable space and will be stored to the elements and would suffer deterioration. Project material is presently stored in another Pearl Harbor Naval Shipyard facility. The shipyard has notified us of their plan to relocate us to another site in Pearl Harbor Naval Shipyard sometime in FY 1997.

Alternative A: Modify exiting buildings on Navy/FISC owned property 200 yards away from our present location at the Pearl City Peninsula.

Alternative B: Lease a commercial warehousing facility in the nearby Pearl City area. Cost of leasing of commercial warehousing facility in Pearl City is $523K per year. At this time, the new cost to NRaD Hawaii by the shipyard on a new location is unknown.

Overall conclusion is that selection of Alternative A will increase our productivity, increase morale, and provide a capability to be more responsive to our nearby CINC and FORCE commander customers. Engineers and technicians will not have to drive 12 miles to facilitate the warehouse oversight of project/program material assets and to preserve the condition of IUSSOP array module reels along with other critical program material equipment/systems.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0025 - Air Conditioning Plant Conversions - Replacement

D. NCCOSC

	FY 1996			FY 1997			FY 1998			FY 1999		
Element of Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment									90			
Installation									135			
Testing												
TOTAL									225			

Justification:

The NCCOSC In-Service Engineering East Coast Division (NISE East) currently has a number of buildings with air conditioning equipment which use Ozone Depleting Substances (ODS). The Environmental Protection Agency (EPA) has mandated that this equipment be replaced by equipment which does not use these substances. The EPA requires that this equipment be replaced no later than the year 1999. This will require a complete rip out of the existing mechanical components. It will be attempted to use the existing ductwork and other system components where possible.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Navy/Research and Development/NCCOSC

C. L0026 - Replace Wing 4, Bldg. A29 - Replacement

				FY 1997			FY 1998			FY 1999		
Element of Cost				Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment												
Installation												
Design/Engineering												35
Minor Construction												315
TOTAL												350

Justification:

This project at the Naval Command, Control and Ocean Surveillance Center RDT&E Division (NRaD) will replace the existing deteriorated exterior structure of Wing 4 with a new metal stud wall and metal truss roof system. The existing foundation is unique to the installed test equipment, and will remain.

The existing structural systems are inadequate and deteriorated beyond economical repair. This replacement will provide a structural system that will protect the Test Equipment Lab, which supports several technical projects. Without this replacement the test equipment inside will be subject to deterioration from the elements.

Alternatives considered to buying the item included relocating the test equipment to a new facility. However, relocating the test equipment required a complex and expensive foundation system. Also, there is an existing Ecological Reserve in the area that precludes further encroachment by development. Replacing the wall and roof system is the more advantageous alternative.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)	A. FY 1999 President's Budget
B. Navy/Research and Development/NCCOSC	C. L0027 - Construct Employee Parking at Gate 1 - New Mission; D. NCCOSC

				FY 1997			FY 1998			FY 1999		
Element of Cost				Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment												
Installation												
Design/Engineering												38
Minor Construction												442
TOTAL												480

Justification:

This project will demolish a substandard building and provide parking spaces for the 3,000+ Naval Command, Control and Ocean Surveillance Center RDT&E Division (NRaD) employees and visitors at the main NRaD San Diego Point Loma facility.

Currently, parking is inadequate and overflows into the adjoining private neighborhoods. There are limited sites available for land development in the San Diego area. The additional parking will be used for employee, contractor support, and bus traffic. The current parking lots fill up quickly, and causes employees and visitors to eventually park at remote areas within the secure perimeter and the surrounding private neighborhoods.

Alternatives considered to building the parking lot included providing parking at remote sites and having a shuttle to transport employees and visitors back to the main facility.

This alternative was selected because: There is limited site available for development in the Point Loma area. Also, there is an existing Ecological Reserve in the area that precludes further encroachment by development. This alternative provides the additional parking required by employees and contractors supporting technical projects as well as visitors.

ACTIVITY GROUP CAPITAL PURCHASES JUSTIFICATION ($ in Thousands)												
A. FY 1999 President's Budget												
B. Navy/Research and Development/NCCOSC				C. L0028 - Second Floor Building 27 - New Mission						D. NCCOSC		
				FY 1997			FY 1998			FY 1999		
Element of Cost				Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Equipment												
Installation												
Design/Engineering												30
Minor Construction												254
TOTAL												284

Justification:

This project will provide Naval Command, Control and Ocean Surveillance Center RDT&E Division (NRaD) an approximately 2,500 square feet addition to an existing security building located at the NRaD San Diego Point Loma Topside facility.

The current security office is inadequate to manage the workload. Many security employees are located remotely from the main security office and disjointed from other security functions. The additional square footage will allow the security office to reorganize the badge and decal office to better serve the employees and visitors. Additional project workload has generated an increase in the workload of the pass and decal office processing contractor and visitor requests.

Alternatives considered to building the addition included relocating the pass and decal office to another facility. Such facilities capable of handling this requirement are not available in the Point Loma Topside area.

This alternative was selected because there is limited site available for development in the Topside area. Also, there is an existing Ecological Reserve in the area that precludes further encroachment by development. Therefore it is proposed that the current security building, which was originally designed with adequate footing to support a second story, be expanded to meet this need.

CAPITAL BUDGET EXECUTION
BSO: SPAWAR
ACTIVITY GROUP: R&D/NCCOSC
FY 1997
FY 1998/1999 BUDGET ESTIMATE

PROJECTS IN THE FY 1998 PRESIDENT'S BUDGET
(Dollars in Millions)

FY	Approved Project	Reprogs	Approved Proj Cost	Current Proj Cost	Asset/ Deficiency	Explanation
97						
Equip. (non-ADPE)	1.490	+0.251	1.741	1.741	.000	
Equip. (ADPE)	5.350	-0.447	4.903	4.903	.000	
Software Develop	2.340	+0.026	2.366	2.366	.000	
Minor Construction	1.071	+0.170	1.241	1.241	.000	
Total (FY 97)	10.251	0.000	10.251	10.251	.000	
Equipment (Non-ADPE)						
Miscellaneous Non-ADP Equipment			1.490	1.741	-0.251	Reduced due to reprioritization of requirements.
Satellite Signal Simulator			0.000	0.425	+0.425	This new requirement will provide funding for a Satellite Signal Simulator to support the Global Positioning System (GPS) efforts at NCCOSC. This system will allow simulation of all possible satellite combinations in a classified and unclassified constellation.
Equipment (ADPE and Telecomm.)						
Miscellaneous ADP Equipment			2.195	2.038	-0.157	Decrease due to repricing of items.
Supercomputer			2.155	1.321	-0.834	This item has been decreased due to reprioritization of requirements and more current pricing data. ATM Encryption Devices moved from FY97 to FY99.
Bar-coding System			1.000	0.000	-1.000	This requirement has been deleted due to reprioritization of requirements.

Video Conferencing Center	0.000	0.782	+0.782	This new requirement will provide a single control center for video, satellite, and networked video services throughout NISE East Charleston, S.C. This system will be capable of originating, receiving, and distributing studio and desktop video teleconferencing signals throughout the command.
Electronic Briefing Theater	0.000	0.762	+0.762	This new requirement will provide a central briefing theater with the capability of displaying live video, still pictures (slides and overhead projection source material) and audio presentations. The theater arrangement allows large numbers of people to gather to hear the same presentations, and provisions are made for some interactive sessions through built-in microphones and video systems.
Software				
DIFMS Conversion	2.340	2.366	+0.026	Increased costs.
Minor Construction				
Minor Construction	1.071	0.000	-1.071	Misc. minor construction projects were canceled due to reprioritization of requirements.
Alteration/Upgrade of Building - Charleston	0.000	0.290	+0.290	Due to the age of the facility, alteration/upgrades are required to reduce operating costs.
Staging/Ready Issue Facilities - Charleston	0.000	0.475	+0.475	Purchase of these pre-fabricated facilities will reduce current lease operating costs.
Facilities Refurbishment and Improvement - Charleston	0.000	0.029	+0.029	NISE East tenant spaces at USACOMM Norfolk must be vacated. This project provides alternative space for these personnel
Hazardous Material Center	0.000	0.447	+0.447	This new requirement is to allow central control of all hazardous material. Currently each department is responsible for storage and inventory of hazardous material. A building will be modified to meet all hazardous material requirements and allow central control and reporting.

CAPITAL BUDGET EXECUTION
BSO: SPAWAR
ACTIVITY GROUP: R&D/NCCOSC
FY 1998
FY 1998/1999 BUDGET ESTIMATE

PROJECTS IN THE FY 1998 PRESIDENT'S BUDGET
(Dollars in Millions)

FY	Approved Project	Reprogs	Approved Proj Cost	Current Proj Cost	Asset/ Deficiency	Explanation
98						
Equip.(non-ADPE)	1.170	0.000	1.170	0.770	-0.400	
Equip.(ADPE)	4.397	0.000	4.397	3.397	-1.000	
Software Develop	0.567	0.000	0.567	3.373	+2.806	
Minor Construction	1.570	0.000	1.570	0.750	-0.820	
Total (FY 98)	7.704	0.000	7.704	8.290	+0.586	
Equipment (non-ADPE)						
Misc. Non-ADP Equipment < $0.250M			1.170	0.770	-0.400	This requirement has been reduced due to reprioritization of requirements.
Equipment (ADPE)						
Corporate Data Server			1.000	0.000	-1.000	This requirement has been deleted due to reprioritization of requirements.
Software Development						
DIFMS Conversion Effort			0.000	2.833	+2.833	DIFMS is the interim migratory account system for NWCF R&D activity group Activities, as selected by the Department of Defense. NCCOSC has been directed to implement this system in January 1998.
Human Resources Office Forms Routing			0.277	0.000	-0.277	This requirement has been deleted due to reprioritization of requirements.
Corporate Excessing System			0.290	0.000	-0.290	This requirement has been deleted due to reprioritization of requirements.

Cash Model License	0.000	0.012	+0.012	New requirement to assist in cash forecasting. NCCOSC has been directed by ASN(FM&C) to use this tool.
DIFMS Reengineering	0.000	0.528	+0.528	Reengineering DIFMS to a relational database technology, will reduce software coding by 30%, will simplify future system changes and will reduce maintenance costs.
Minor Construction				
Facilities Refurbishment and Improvement	0.245	0.000	-0.245	This requirement has been deleted due to reprioritization of requirements.
Alteration/Upgrade of Building	0.290	0.000	-0.290	This requirement has been deleted due to reprioritization of requirements.
Pre Installation, Testing & Checkout Facility	0.285	0.000	-0.285	This requirement has been deleted due to reprioritization of requirements

CAPITAL BUDGET EXECUTION
BSO: SPAWAR
ACTIVITY GROUP: R&D/NCCOSC
FY 1999
FY 1998/1999 BUDGET ESTIMATE

PROJECTS IN THE FY 1998 PRESIDENT'S BUDGET
(Dollars in Millions)

FY	Approved Project	Reprogs	Approved Proj Cost	Current Proj Cost	Asset/ Deficiency	Explanation
99						
Equip.(non-ADPE)	1.500	0.000	1.500	0.130	-1.370	
Equip.(ADPE)	4.545	0.000	4.545	9.948	+5.403	
Software Develop	0.000	0.000	0.000	5.223	+5.223	
Minor Construction	0.575	0.000	0.575	1.114	+0.539	
Total (FY 99)	6.620	0.000	6.620	16.415	+9.795	
Equipment (other than ADPE and Telecomm.)						
Misc. Non-ADP Equipment			1.500	0.130	-1.370	Reduced due to reprioritization of requirements.
Equipment (ADPE and Telecomm.)						
Misc. ADP Equipment			4.545	3.679	-0.866	Reduced due to reprioritization of requirements
Supercomputer			0.000	3.500	+3.500	This requirement will support the continued upgrading of the Supercomputer at NRaD. This upgrading was deferred from both FY 1996 and FY 1997. The Supercomputer systems and high capacity networking have become integral components of ongoing NRaD programs across the C4I mission area and upgrades are required to permit the broad scientific and engineering work across the laboratory and DOD to attain the increased productivity such upgrade and enhancement offers. This effort is needed to upgrade this computers and networks with state of the art equipment.
Digitized Retrievable Database			0.000	0.600	+0.600	This new requirement will provide the ability to retrieve, access and view scientific and technical information. NISE East has many historical documents, films and

				photographs that need to be retained for research purposes. Because of the age of many of these items they are very fragile and are becoming unusable.
Backbone Capacity Upgrade	0.000	0.995	+0.995	This project will provide a high bandwidth switching system to handle increasing network loading based on anticipated user requirements. Failure to upgrade this system will result in work stoppages, will limit the number of users and will result in the loss of productive man-hours.
Management Information Data Server	0.000	0.512	+0.512	This requirement is for a server with associated hardware and software to replace the server currently being used to support the management information system at NISE East. The current system is only capable of handling just over 200 users while NISE East has over 1,400 users. This upgrade will provide increase capability to support the NISE East requirements and will increase productivity.
Document Imaging & Retrieval	0.000	0.662	+0.662	This new requirement will provide rapid access to contractual, financial and public documents via electronic media. Not only will this project significantly reduce space required for record retention and the associated cost to maintain the space, it will also maintain document integrity by not allowing changes to source documents, and it will also provide faster access to the stored data.
Software Development				
Corporate Business System	0.000	2.000	+2.000	This Corporate Database will provide a consistent format and source of data in support of the business processes at NCCOSC. It will support the procurement, material management, personnel, and security functions. This system will allow the user community access to automated systems to accomplish the daily business functions of the Center.
Rehost Of Satellite Signal Generator	0.000	0.115	+0.115	This project is to move the Satellite Signal Generator to a new platform. The current platform is unable to adequately support this Signal Generator, causing errors and has reducing the value of this tool.
Engineering Management System	0.000	2.830	+2.830	This new requirement will provide NISE East with a true project management system to support contract management, travel, personnel data, automated ship information,

				financial plans, status of material on hand, a work breakdown structure and the ability to do multiyear project planning.
Cash Model License	0.000	0.006	+0.006	This is a new requirement to assist in cash forecasting. NCCOSC has been directed by by ASN(FM&C) to use this tool.
DIFMS Reengineering	0.000	0.272	+0.272	Reengineering DIFMS to a relational database technology, will reduce software coding by 30%, will simplify future system changes and will reduce maintenance costs.
Minor Construction				
Pre Installation, Test & Check Out Facilities	0.285	0.000	-0.285	This requirement has been deleted due to reprioritization of requirements.
Alteration/Upgrade of Building	0.290	0.000	-0.290	This requirement has been deleted due to reprioritization of requirements.
Replace Wing 4, Building A29	0.000	0.350	+0.350	Due to the age of the facility it is necessary to replace the deteriorated exterior of the structure and replace with new walls and to redo the roof with a new truss system.
Employee Parking Gate 1	0.000	0,480	+0.480	This project will provide additional parking for employees and visitor traffic at the NRaD Point Loma facility. Currently vehicles are causing significant overflow into the adjacent residential community creating many public affairs problems.
Add Second Floor Building 27	0.000	0.284	+0.284	This project will add 2,500 square feet to an existing security building at the NRaD Point Loma facility. This facility will allow the consolidation of security functions that are currently dispersed in remote locations, allowing better service to employees and visitors.

NAVY WORKING CAPITAL FUND NARRATIVE
DEPARTMENT OF THE NAVY
RESEARCH AND DEVELOPMENT/NAVAL RESEARCH LABORATORY
FY 1999 PRESIDENT'S SUBMISSION

Activity Group Function

The mission of the Naval Research Laboratory (NRL) is to conduct a broadly based multi-disciplinary program of scientific research and advanced technological development directed toward maritime applications of new and improved materials, techniques, equipment, systems, and ocean, atmospheric, and space sciences and related technologies. The NRL provides:

Primary in-house scientific research and development for the physical, engineering, space, and environmental sciences.

Broadly based exploratory and advanced development programs in response to identified and anticipated Navy needs.

Broad multi-disciplinary support to the Naval Warfare Centers.

Space and space systems technology development and support.

Major NRL customers include the Office of Naval Research, the Naval Sea Systems Command, the Naval Air Systems Command, the Space and Naval Warfare Systems Command, the Ballistic Missile Defense Office, the Defense Advanced Research Projects Agency, Naval Warfare Centers, the Army, the Air Force, other Navy and Department of Defense customers, the Department of Energy, and the National Aeronautics and Space Administration.

Activity Group Composition

In addition to its Washington, D.C. campus of about 130 acres and 102 main buildings, NRL maintains 13 other research sites, including a vessel for fire research and a Flight Support Detachment. The many diverse scientific and technological research and support facilities include the large facility located at the Stennis Space Center in Bay St. Louis, Mississippi; a facility at the Naval Postgraduate School in Monterey, California; the Chesapeake Bay Detachment in Maryland; and additional sites located in Maryland, Virginia, Alabama, and Florida.

The Flight Support Detachment, located aboard the Patuxent River Naval Air Station in Lexington Park, Maryland, operates and maintains five uniquely configured P-3 Orion turboprop aircraft as airborne research platforms for worldwide scientific research operations.

The Chesapeake Bay Detachment occupies a 168-acre site near Chesapeake Beach, Maryland, and provides facilities and support services for research in radar, electronic warfare, optical devices, materials, communications, and fire research. Because of its location high above the Chesapeake bay on the western shore, unique experiments can be performed in conjunction with Tilghman Island site 16 km across the bay.

The Naval Research Laboratory-Stennis Space Center is a tenant activity at NASA's Stennis Space Center. Other Navy tenants at the Stennis Space Center include the Naval Meteorology and Oceanography Command and the Naval Oceanography Command and the Naval Oceanographic Office, who are major operational users of the oceanographic and atmospheric research and development performed by the Naval Research Laboratory. This unique concentration of operational and research oceanographies make Stennis Space Center the center of naval oceanography and the largest such grouping in the Western world.

The Marine Meteorology Division at Monterey, California, a tenant activity of the Naval Postgraduate School, is collocated with the Fleet Numerical Meteorology and Oceanography Center to support development and upgrades of numerical atmospheric forecast systems and related user products. This collocation allows access to the Navy's largest vector supercomputer, providing real time as well as archived global atmospheric and oceanographic databases for research at Monterey and at other NRL locations.

Accumulated Operating Results

	(Dollars in Millions)		
	FY 1997	**FY 1998**	**FY 1999**
Revenue	515.2	526.2	547.5
Cost of Goods Sold	512.6	547.1	562.1
Net Operating Results	2.6	(20.9)	(14.6)
Extraordinary Expense	2.2		
Previous Year AOR Balance	30.7	35.5	14.6
Accumulated Operating Results	35.5	14.6	0.0

The favorable Accumulated Operating Results (AOR) reflects additional economies and efficiencies effected throughout NRL that will also result in a rate in FY 1999 which is less than break-even so as to bring the AOR to a zero balance. (NRL has included no surcharge in its budget.)

Funding (Orders)

	(Dollars in Millions)		
	FY 1997	**FY 1998**	**FY 1999**
Current Submission	566.2	526.6	525.4

Increased funding levels in FY 1997 and FY 1998 compared to the FY 1998 President's Budget reflect emergent workload associated with the National Aeronautics and Space Administration (NASA) Space Station Program funding for the construction of the Interim Control Module (ICM). The reduction in FY 1999 from the FY 1998 President's Budget considers the reduction in the composite rate from that previously budgeted as a result of additional savings effected in this budget. The change from FY 1998 to FY 1999 in the current submission is due primarily to an increase in FY 1999 rates, offset by overhead cost reductions and efficiencies.

Costs

	(Dollars in Millions)		
	FY 1997	**FY 1998**	**FY 1999**
Direct Costs:			
Current Submission	390.2	408.4	421.5
Indirect Costs:			
Current Submission	122.8	138.7	140.6
Total Cost:			
Current Submission	513.0	547.1	562.1

Direct cost increases over the FY 1998 President's Budget level primarily reflect increased contractual costs associated with the NASA ICM project. Overhead costs decline primarily because of reductions in the overhead staffing levels. The increase from FY 1998 to FY 1999 in the current submission is due primarily to inflation.

Capital Purchase Program (CPP)

	(Dollars in Millions)		
	FY 1997	**FY 1998**	**FY 1999**
Equipment-Non ADPE	8.4	9.1	11.9
ADPE/Telecommunications Equipment/Software	1.1	4.5	2.0
Software Development	0	.5	1.0
Minor Construction	1.4	1.2	1.1
TOTAL ($ millions)	$10.9	$15.3	$16.0

This CPP plan provides a modest investment level, amounting to less than three percent of revenue per year, that allows NRL to acquire needed technology to maintain a state-of-the-art facility to fulfill science and technology mission areas supporting the DON, DoD, and related customer programs.

Civilian Personnel

FTEs	FY 1997	FY 1998	FY 1999
Current Submission	3,115	3,062	3,042
End-Strength			
Current Submission	3,153	3,159	3,137

Civilian strength levels, measured by both end strength and full-time equivalents, are reduced from the FY 1998 President's Budget primarily reflecting actual staffing reductions associated with overhead efficiencies and some delays in hiring high quality scientists. FY 1999 end strength reductions from the President's Budget reflect the savings projected in the NRL-DC HRO operations due to DON regionalization plans and servicing ratio improvements. NRL projects a steady program workload and has stabilized the year-to-year end strength and resultant FTE plan in the current submission.

Military Personnel

Military personnel levels for FY 1997 are 19 officers and 55 enlisted, a total of 74 billets. For FY 1998 and FY 1999, the levels are 14 officers and 69 enlisted, a total of 83 billets. The increase in enlisted personnel staffing levels is required to support increases in customer workload and research flights at the Patuxent River detachment.

Workload

Direct Labor Hours:	FY 1997	FY 1998	FY 1999
Current Submission	3,618,219	3,498,543	3,500,299

Direct labor hour (DLH) reductions from the FY 1998 President's Budget reflect the actual lower onboard levels in direct strength levels as a result of delays in hiring high quality scientists. NRL has stabilized the FY 1998 through outyear DLH given the steady customer workload and funding levels.

Customer Rate Changes

	FY 1997	FY 1998	FY 1999
Stabilized Customer Rate	$81.49	$79.85	$86.45
Stabilized Rate Change		(2.0%)	8.3%
Composite Customer Rate Change		(.1%)	4.9%

The Stabilized Customer Billing Rate consists of direct labor, overhead, and an AOR recovery factor. Unique direct non-labor costs are billed on a reimbursable basis to the benefitting/ requiring customer. The Composite Customer Rate Change incorporates

both the stabilized costs and the reimbursable costs. The FY 1998 rate declines in order to return significant prior year "profits" to customers. While the FY 1999 rate includes passing some savings on to customers; the dollar amounts are lower, thus appearing to be an increase over the lower FY 1998 rate.

Unit Cost/Performance Indicator

	FY 1997	FY 1998	FY 1999
Current Submission	$76.03	$84.32	$86.42

The Unit Cost is a measurement of total direct labor and overhead costs per direct labor hour. The change in cost per direct labor hour shown above primarily reflects increases for annual inflation/price changes from year to year and reduced direct labor hours, partially offset by overhead cost reductions and efficiencies.

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
RES LABS / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	505.1	512.2	532.2
Surcharges	.0	.0	.0
Depreciation excluding Major Constructio	10.1	14.0	15.2
Other Income			
Total Income	515.2	526.2	547.4
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	2.9	3.1	3.2
Civilian Personnel	219.1	222.4	228.0
Travel and Transportation of Personnel	11.3	11.4	11.5
Material & Supplies (Internal Operations	39.8	45.1	46.1
Equipment	34.3	39.2	40.1
Other Purchases from NWCF	13.8	16.4	16.5
Transportation of Things	.7	1.4	1.4
Depreciation - Capital	10.1	14.0	15.2
Printing and Reproduction	.6	.8	.8
Advisory and Assistance Services	.0	.0	.0
Rent, Communication & Utilities	17.4	15.7	16.1
Other Purchased Sevices	163.0	177.5	183.2
Total Expenses	513.0	547.1	562.1
Work in Process Adjustment	-.4	.0	.0
Comp Work for Activity Reten Adjustment	.0	.0	.0
Cost of Goods Sold	512.6	547.1	562.1
Operating Result	2.6	-20.9	-14.7
Less Surcharges	.0	.0	.0
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	2.3	.0	.0
Net Operating Result	4.8	-20.9	-14.7
Other Changes Affecting AOR	.0	.0	.0
Accumulated Operating Result	35.5	14.7	.0

Exhibit Fund-14

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
RES LABS / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	566.2	526.6	525.4
a. Orders from DoD Components	445.0	446.9	459.7
Department of the Navy	300.8	312.8	324.2
O & M, Navy	11.6	8.9	8.9
O & M, Marine Corps	.0	.0	.0
O & M, Navy Reserve	.0	.0	.0
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	1.4	.4	.6
Weapons Procurement, Navy	.1	.0	.0
Ammunition Procurement, Navy/MC	.4	.5	.5
Shipbuilding & Conversion, Navy	4.3	2.5	2.6
Other Procurement, Navy	5.6	3.8	2.8
Procurement, Marine Corps	.0	.0	.0
Family Housing, Navy/MC	.0	.0	.0
Research, Dev., Test, & Eval., Navy	276.0	295.7	307.7
Military Construction, Navy	.0	.0	.0
Other Navy Appropriations	1.4	1.0	1.2
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	8.4	9.0	9.3
Army Operation & Maintenence	.2	.0	.0
Army Res, Dev, Test, Eval	7.4	8.6	8.9
Army Procurement	.8	.3	.4
Army Other	.0	.0	.0
Department of the Air Force	73.7	73.2	73.3
Air Force Operation & Maintenence	1.3	.2	.1
Air Force Res, Dev, Test, Eval	53.0	58.1	59.1
Air Force Procurement	19.4	15.0	14.0
Air Force Other	.0	.0	.0
DOD Appropriation Accounts	62.1	51.8	52.9
Base Closure & Realignment	.0	.0	.0
Operation & Maintence Accounts	1.5	.9	.8
Res, Dev, Test & Eval Accounts	60.3	49.2	49.7
Procurement Accounts	.2	.1	.0
DOD Other	.1	1.5	2.4
b. Orders from NWCF Business Area	13.7	12.7	12.6
c. Total DoD	458.7	459.6	472.3
d. Other Orders	107.5	67.0	53.1
Other Federal Agencies	104.3	64.0	50.0
Foreign Military Sales	.4	.1	.2
Non Federal Agencies	2.8	2.9	2.9

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
RES LABS / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	108.3	159.4	159.7
3. Total Gross Orders	674.6	686.0	685.2
4. Funded Carry-Over **	159.4	159.7	137.7
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	515.2	526.2	547.4

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

Changes in the Cost of Operation
Activity Group: Research & Development
Sub-Activity Group: Naval Research Laboratory
Date: 02 February 1998
(Dollars in Millions)

	Expenses
FY 1997 Actual:	513.0
FY 1998 Estimate in President's Budget:	537.5
Pricing Adjustments:	(1.1)
Program Changes:	
Additional Direct Customer Workload	19.3
Productivity Initiatives and Other Efficiencies:	
Overhead Cost Savings above level already programmed in the FY 1998 Presidents' Budget	(8.6)
FY 1998 Estimate:	547.1
Pricing Adjustments:	
FY 1999 Pay Raise	
Civilian Personnel	5.1
Military Personnel	0.1
Annualization of Prior Year Pay Raise	1.6
General Purchase Inflation	4.8
Productivity Initiatives and Other Efficiencies:	
HRO Regionalization/Service Ratio Savings	(1.0)
Program Changes:	
Additional Direct Non-Labor/Reimbursable Workload	3.2
Depreciation Costs	1.2
FY 1999 Estimate:	562.1

Exhibit Fund-2 Changes in the Costs of Operation

ACTIVITY GROUP CAPITAL INVESTMENT SUMMARY
Activity Group: Research & Development
Sub Activity Group: Naval Research Laboratory
Date: 02 Feb 98
(Dollars in Millions)

Line No.	Item Description	FY 1997 Quant	FY 1997 Total Cost	FY 1998 Quant	FY 1998 Total Cost	FY 1999 Quant	FY 1999 Total Cost
	Non-ADP Equipment (>$500K)						
	Replacement						
1001	Large Wafer Ion Mill and Chemically Assisted Ion Beam Etch System	1	0.835				
1002	Air Acoustics System and Digital Data Acquisition System	1	0.705				
	Productivity						
1003	Stabilized Precision Aircraft Optical Mount			1	1.200		
1004	Mobile Global Broadcast System			1	0.960		
1005	Enhancements for the Structural Sensing and Attitude Control Laboratory			1	0.660		
1006	Scanning Slope Sensor Buoy			1	0.520		
1007	Mobile Optical Data Collection Site					1	1.200
1008	Robotics Engineering Laboratory					1	0.950
1009	Sea-Going Acoustic Measurement System					1	0.900
	Total Non-ADP Equipment (>$500K)	**2**	**1.540**	**4**	**3.340**	**3**	**3.050**
2001	**Total Non-ADP Equipment (>$100K<$500K) (Repl./Productivity/New Mission)**	**33**	**6.813**	**32**	**5.770**	**45**	**8.884**
	Total Non-ADP Equipment	**35**	**8.353**	**36**	**9.110**	**48**	**11.934**
	ADP Equipment (>$500K)						
3001	Virtual Reality Research Facility	1	0.649				
3002	Andrew File System/Distributed File Server			1	0.982		
3003	Multi-Use Workstation Cluster			1	0.700		
3004	High Speed Network Infrastructure					1	0.698
	Total ADP Equipment (>$500K)	**1**	**0.649**	**2**	**1.682**	**1**	**0.698**

ACTIVITY GROUP CAPITAL INVESTMENT SUMMARY
Activity Group: Research & Development
Sub Activity Group: Naval Research Laboratory
Date: 02 Feb 98
(Dollars in Millions)

Line No.	Item Description	FY 1997 Quant	FY 1997 Total Cost	FY 1998 Quant	FY 1998 Total Cost	FY 1999 Quant	FY 1999 Total Cost
	ADP Equipment (>$100K<$500K)						
4001	Sea-Going Data Acquisition System	1	0.320				
4002	Unmanned Air Vehicle's Control Workstation	1	0.170				
4003	SGI Shared-Memory Multiprocessor for Computational Physics			1	0.490		
4004	Very High-Speed Scientific Local Area Research Network for Space Sciences			1	0.410		
4005	Sun Ultra Computing Architecture and Network Server System			1	0.310		
4006	Airborne Marconi/Calcomp Satellite Telephone System			1	0.300		
4007	Distributed Virtual Environment System			1	0.300		
4008	Origin 2000 8-Node Computer System for Theoretical and Computational Research			1	0.249		
4009	Integrated Design Facility for Satellite Design and Interface to Structural and Thermal Analysis			1	0.235		
4010	Network Multicast Capability for Network Based Collaborative Research			1	0.220		
4011	Special Projects Multi-CPU Compute-Server for SAR Exploitation Projects			1	0.210		
4012	RAID Disk Array System for Global Positioning System Processing			1	0.130		
4013	Multiple Mobile Robots Facility Upgrade					1	0.320
4014	Network Enhancement System for Information Technology in R&D such as Artificial Intelligence					1	0.295
4015	Computer System Upgrade for Information Technology Research					1	0.270
4016	Distributed Fileservice/Distributed Computing Environment for Robust, Secure, Fast Data Storage					1	0.240
4017	File Server and Archive System for Extensive Modeling Support and Analysis					1	0.170
	Total ADP Equipment (<$500K)	**2**	**0.490**	**10**	**2.854**	**5**	**1.295**
	Total ADP Equipment	**3**	**1.139**	**12**	**4.536**	**6**	**1.993**
	Software Development(>$500K)						
5001	NAVAIR Industrial Financial Management System (NIFMS)	0	0.000	0	0.000	1	0.805
	Total Software Development(>$500K)	**0**	**0.000**	**0**	**0.000**	**1**	**0.805**
6001	**Total Software Development (>$100K<$500K)**	**0**	**0.000**	**3**	**0.478**	**2**	**0.177**
	Total Software Development	**0**	**0.000**	**3**	**0.478**	**3**	**0.982**
7001	**Total Minor Construction (>$100K<$300K)**	**6**	**1.373**	**5**	**1.219**	**5**	**1.073**
	TOTAL CAPITAL PURCHASE PROGRAM	**44**	**10.865**	**56**	**15.343**	**62**	**15.982**

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 1003. Stabilized Precision Aircraft Optical Mount	D. Activity Identification Naval Research Laboratory Washington, DC 20375

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
Non-ADP Equipment (Productivity) > $500,000				1	1200	1200						

Narrative Justification: Status Quo and Shortcomings. This will increase our research capability. A primary objective of NRL work in tactical surveillance/reconnaissance is the development of a paradigm shift, to Smart Imaging. Current image exploitation practices require that all imagery be inspected by photo interpreters (PI) to extract information. This practice is not feasible for the Defense Airborne Reconnaissance Office (DARO) requirement of NIIRS 4-6 imagery of the canonical 40,000 sq nmi/day battlefield. The digital focal plane simply produces too many pixels for the eye-brain system to process efficiently. Some means is needed to cue the PI to the area of images that contain targets or other objects of interest and exclude background areas. Smart Imaging uses advanced multispectral digital image processing technologies to autonomously cue the PI to areas of interest. The PI can then utilize the high spatial resolution of the imagery to identify and analyze only those areas of the image of importance in the context of the overall scene. Since the vast majority of pixels are background pixels, Smart Imaging will dramatically reduce the PI's workload. Currently the development of the Smart Imaging Technology has been accomplished with surface based sensors. The next step will require airborne sensors to acquire a sufficient data base for false alarm statistics and to demonstrate concept utility. To be useful these data must be taken under conditions which are similar to those that future operational sensors will operate in. This implies altitudes of 20 kft or higher, ranges to 20nm or more and sensor resolution of 5 micro radians or less. These altitudes and ranges do not push the expected operations envelope but are sufficient to determine and demonstrate utility of the Smart Imaging concept. NRL's sensor technology surpasses its ability to point and stabilize these sensors in flight without sacrificing resolution and image quality. Requirement for CPP Project. To overcome this problem, NRL proposes to purchase a high quality stabilized optical mount suitable for flight on NRL P-3 (and perhaps other) aircraft. This mount would serve as a suitable stabilized platform for a large number of sensors the division is currently developing. To this point the sensors under development have been used from ground based platforms. This method is suitable for preliminary development only. Since these sensors ultimately will be on airborne platforms, they must be flown at some point to obtain realistic data for algorithm development and demonstration. Simply body-fixing them to the aircraft is not an option when the requirement for imagery is NIIRS-6 or higher. Based on current sponsor requirements plus additional new sponsor interest, we anticipate a continually increasing workload in this technology for the foreseeable future. Programs supported are NRL 6.2 Multi-Spectral EO/IR Program DARO Multi-Spectral Program, and ARPA CCD, ACTD. Economic Analysis Summary. An economic analysis on the proposed CPP purchase has been performed. The proposed CPP purchase has incremental operational costs of $25,000 per year. The item will provide a new technology for research in current mission requirements. There is no viable alternative to procuring a stabilized platform for these sensors. The equipment is not available for sharing at other government organizations. Rental of a stabilized mount is not a viable alternative, as manufacturers of these mounts are in the business for sales only and when approached about the possibility of rental of this equipment, they rejected it. Impact of CPP Project Disapproval. Without a high precision stabilized mount for its developing EO/IR surveillance/reconnaissance sensor technology, NRL cannot fulfill research requirements. The existing stabilization methods NRL has at its disposal (land based platform and P-3 body fixed mounting of these high spatial resolution sensors) are totally inadequate to meet the requirement of NIIRS 6 or greater resolution for airborne applications. Without a stabilization capability, NRL will be at a great disadvantage in developing these sensors and testing our state-of-the-art multispectral algorithms.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 1004. Mobile Global Broadcast System	D. Activity Identification Naval Research Laboratory Washington, DC 20375

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
Non-ADP Equipment (Productivity) > $500,000				1	960	960						

Narrative Justification: Status Quo and Shortcomings. The Global Broadcast System (GBS) Conops identifies two methods of uplink "primary and mobile." To date, no mobile uplink system or concept of how to do a mobile uplink system, has been identified. Requirement for CPP Project. The proposed project is a portable satellite base station for data insertion into the GBS. It will have the capability to uplink digital data into a Ku-band satellite transponder for rebroadcast on downlink channels to ground receiver transceiver nodes. The ground receivers are small tactical units deployed in areas of interest. The proposed project will allow study and investigation of data collection from deployable data gathering services such as Unmanned Aeronautical Vehicles and other intelligence gathering sources which are presently limited to line-of-site communication. The Mobile GBS Injection Vehicle would insert this data into the GBS for dissemination to Tactical Commanders and other units on a real time basis. This should enable almost immediate battlefield awareness to all commanders who have GBS reception capability. The Mobile GBS Injection Vehicle would allow the Naval Research Laboratory (NRL) to experiment with enhance protocols and modulation techniques for data gathering and insertion into the GBS network. It provides NRL the ability to influence the early stages of this program and to develop military communications technologies that will carry into the next century. Economic Analysis Summary. This system is a new technology. Leasing is not a practical option as this would prohibit extensive modification as needed and because of liability issues would limit the areas where it could be used (i.e., world hot spots). Modification and use of another government-owned test vehicle was considered but the extensive modifications required make this alternative more costly to set up and would also ultimately reduce the capability of experiments which could be performed. Therefore that option is not cost effective. Justification for purchase is based on cost avoidance compared to the alternative. Impact of CPP Project Disapproval. The mobile GBS injection system, combined with NRL's experience in space technology, will position NRL to lead this research effort. Without the GBS, NRL will be left without the resources to contribute in this effort.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 1005. Enhancements for the Structural Sensing and Attitude Control Laboratory	D. Activity Identification Naval Research Laboratory Washington, DC 20375

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
Non-ADP Equipment (Productivity) > $500,000				1	660	660						

Narrative Justification: Status Quo and Shortcomings. The current Reconfigurable Spacecraft Host for Attitude and Pointing Experiments (RESHAPE) Laboratory does not provide enough capability to support the Tactical Imaging Constillation Architecture Study (TICAS) development test article and includes no provisions for doing accurate metrology of payloads. The current RESHAPE facility cannot support large aperture optical system testing nor multiple small aperture system testing. The current facility has a maximum load capacity of 2500 lb. and no high accuracy alignment devices. Requirement for CPP Project. The proposed facility will be used to study satellite attitude control designs and develop techniques for jitter suppression applicable to a variety of satellite payloads. The laboratory will include a unique spherical air bearing platform used to test spacecraft slewing maneuvers and attitude control methodologies prior to implementation on flight vehicles. The laboratory will also utilize a laser metrology system for high accuracy translational and rotational motions. A separate collimated light system consisting of a high power laser source and a large aperture parabolic reflector will be used for optical alignments and end-to-end (fore optics to focal plane array) verification of optical systems. The new facility will include: An upgrade modification to the existing three axis of rotation spherical air bearing providing a capacity of 6500 lb.; a spacecraft structural simulator, equipped with proof-mass actuators acting as jitter sources installed on the spherical air bearing; and a high accuracy laser vibrometer; and light collimator consisting of a dedicated high power laser and >24" large off-axis parabolic optical reflector. Each program utilizing the facility will provide project specific attitude control and determination components and well as payload elements. TICAS is an ongoing funded effort to develop an alternative architecture for space based reconnaissance systems that utilizes existing small satellite technologies to reduce costs while maintaining overall performance. The proposed CPP equipment will allow NRL to continue to apply new technology to current missions. No on-site leasing is available and no contractor facilities with these unique capabilities exist. The new facility will provide enhanced capabilities to perform end to end system checkouts of high performance space based optical systems. Further analysis was made to consider the use of other similar off-site facilities for this research; there are no other comparable facilities in the Washington Metro area to support the TICAS development program. Impact of CPP Project Disapproval. Without the enhancements, the NRL would not be able to conduct the required ground testing in support of the TICAS system development.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 1006. Scanning Slope Sensor Buoy	D. Activity Identification Naval Research Laboratory Stennis Space Center, MS 39529

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
Non-ADP Equipment (Productivity) > $500,000				1	520	520						

Narrative Justification: Status Quo and Shortcomings. One of NRL's research requirements is to provide an understanding of fine scale ocean physics. NRL requires the capability of measuring short waves in the ocean in our research of surface fine structure and support interpretation of ocean remote sensing from space. At present NRL has no capability of measuring the surface fine structure. Requirement for CPP Project. Short ocean waves are the primary contributors to the ocean surface roughness, which is of critical importance to the interpretation of ocean features from remote sensing, and to the understanding of air-sea interaction processes driving the ocean circulation and water waves. The wave measurement system is designed to acquire in situ spatial properties of water waves with wavelengths ranging from 4 mm to 1 m, covering the band of Bragg resonance waves of most microwave radars used in ocean remote sensing. In ocean remote sensing using microwave radars, short water waves on the ocean surface serve as the roughness elements to scatter back the electromagnetic waves. Because these short water waves respond to many environmental parameters, they are natural tracers for monitoring these parameters. Notable features detected from short wave modulation include surface gravity waves, internal waves, ship wakes, slicks and bottom bathymetry from SAR images, significant wave height from altimeter, and wind stress estimate from scatterometer or altimeter. One to two deployments per year is expected from the related research projects. This equipment provides new technology for current Navy and NRL missions. Leasing is not an option. There are no viable alternatives to the purchase of this item to further the knowledge of the kinematics and dynamics of short ocean waves which is critically needed for accurate interpretation of remote sensing of ocean surface features. Purchase of this buoy is justified on the basis of meeting current research requirements. Impact of CPP Project Disapproval. Information extractable from remotely sensed data remains qualitative up to this date. The knowledge of the kinematics and dynamics of short ocean waves is critically needed for the accurate interpretation of remote sensing of ocean surface features. The proposed equipment will provide the critical field data of these short-scale surface waves to enhance our understanding of the dynamics and modulation of capillary-gravity waves in the natural environment. This understanding is needed such that remote sensing can provide accurate and quantitative information about the ocean processes that are important to the safe operation of the Navy.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION
(Dollars in Thousands)

A. Budget Submission
FY 1999 PRESIDENT'S BUDGET

B. Component/Activity Group/Date	C. Line No. & Item Description	D. Activity Identification
Department of the Navy Research and Development 02 February 1998	1007. Mobile Optical Data Collection Site	Naval Research Laboratory Washington, DC 20375

Element of Cost				FY 1998			FY 1999					
	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
Non-ADP Equipment (Productivity) > $500,000							1	1200	1200			

Narrative Justification: Status Quo and Shortcomings. NRL has a number of viable radio frequency (rf) data collection sites which serve the DOD community, both in research and in application. However, there is no state-of-the-art optical data collection site or world class observatory capability at the laboratory, or local to the area. To accommodate sponsor mission requirements using the necessary equipment without dedicated access, we have been forced to renegotiate telescope time often, sometimes at a given project's detriment. Similarly, partnering with NASA has proven restrictive. NASA's configuration-managed telescopes have meant that we could not include technical features to provide specific data. Essentially, NASA's priorities are to the scientific communities they serve, not to the DOD. Access to university-owned astronomical telescopes are even more restrictive and expensive. Dedicated priority access is a requirement for the types of missions we support. Existing telescopes and facilities do not provide that availability. To serve a number of DOD customers in a dedicated fashion and to provide a platform for advanced applied science in the areas of atmospheric propagation and optical data transfer, NRL needs its own telescope/observatory to host experiments and testbeds. Without a dedicated ground site, it is very difficult to meet current and projected workload with sponsors and to serve DoD customer missions as they arise. Requirement of CPP Project. A Mobile Optical Data Collection Site would provide NRL with a ground facility to conduct experiments, obtain data, and support unique operation in the optical wavelength regime. To continue its efforts in these areas, ongoing priority access to a ground-based optical data collection site is essential where that access includes flexibility to configure test beds to support different types of experiments. For example, to support a LASERCOM experiment, it will be valuable to provide a means to measure r-naught (minimum coherence length) and Greenwood Frequency (rate of change of atmospheric turbulence) in the region. The ability to enable optical data collection at Geosynchronous orbit using a passive or active optical system (optical communications or laser radar), a meter class telescope would add to meeting DOD mission requirements in this important area of atmospheric study. Economic Analysis Summary. The recommended alternative is based on comparison to negotiating with telescopes at other facilities for time and results in a benefit investment ratio of 3.07 and a payback period of 2.47 years. This is because of the savings that will be realized based on having our own facility. Impact of Project Disapproval. Without a dedicated ground site, we are forced to continue to negotiate with host telescopes for time. Costs to obtain telescope access are very high at other facilities. In addition, access for priority time is difficult to obtain. There is a very strong probability that opportunities to study phenomena critical to a number of DOD needs, will be lost without a dedicated facility. Travel costs to keep a crew in the field for extended periods are also burdensome. Local access will increase yield of technical product to sponsorships. Such a facility can provide priority access to DOD sponsors including Office of Naval Research for atmospheric studies as they pertain to wideband data transfer, Naval Space Command for periodic calibration of the "Fence," BMDO for intercept studies, and the SPAWAR/SPO community for system verification and calibration of specific spacecraft.

Exhibit Fund 9b Activity Group Capital Purchases Justification

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 1008. Robotics Engineering Laboratory	D. Activity Identification Naval Research Laboratory Washington, DC 20375

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
Non-ADP Equipment (Productivity) > $500,000							1	950	950			

Narrative Justification: <u>Status Quo and Shortcomings</u>. There are no existing specialized facilities at the Naval Research Laboratory (NRL) to support Robotic Engineering projects. <u>Requirement for CPP Project</u>. NRL's robotics engineering capability will be developed to study a variety of topics in such diverse areas as autonomous spacecraft docking, control of rigid and flexible manipulators, interaction of spacecraft and manipulator dynamics, teleoperation of space robots, micro-miniaturization of spacecraft, and design of terrestrial and extra-terrestrial rovers. Applications of artificial intelligence, microelectronics, and microelectromechanical systems, laser metrology, GPS technology, smart structures technology, lightweight composite materials, and advanced control theories will be investigated to develop state-of-the-art robot guidance, navigation, and control systems. NRL robotics engineering laboratory will initially consist of three primary test facilities: Autonomous Docking Facility; Manipulator Control Facility; and the Autonomous Rover Facility. NRL will facilitate applied research and development of prototype robotic vehicles and mechanisms, and their applications to support military and space missions including signal collection, weapon delivery, toxic material handling, autonomous spacecraft docking, repair, servicing, operations, and extra-terrestrial exploration. <u>Economic Analysis Summary</u>. This equipment provides new technology for current missions. The economic justification is based on cost avoidance compared to use of alternative facilities. Use of an existing government facility would be impractical and costly. For a three-month test, it would cost approximately $625K. This would limit our testing to one per year. Other government facilities would require extensive modification and augmentation to support the proposed NRL programs. Purchase of this Laboratory equipment is based on its critical research capabilities. With the proposed laboratory, NRL would be able to conduct four to five test periods per year. <u>Impact of CPP Project Disapproval</u>. In short, there are no reasonable alternatives to funding the NRL Robotics Engineering Laboratory if we are to develop the increasing trends toward miniaturization to automated space and terrestrial systems in support of advanced military systems of the future.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 1009. Sea-Going Acoustic Measurement System	D. Activity Identification Naval Research Laboratory Washington, DC 20375

Element of Cost	Quan	Unit Cost	Total Cost	FY 1998 Quan	FY 1998 Unit Cost	FY 1998 Total Cost	FY 1999 Quan	FY 1999 Unit Cost	FY 1999 Total Cost	Quan	Unit Cost	Total Cost
Non-ADP Equipment (Productivity) > $500,000							1	900	900			

Narrative Justification: Status Quo and Shortcomings. The Naval Research Laboratory (NRL) has several data acquisition systems which were developed for Arctic Research. These systems used modified VCRs and have limited bandwidth (5-150 Hertz) and channel capacity (256). In addition, the VCRs are over seven years old and are becoming fatigue casualties. These systems do not have the necessary bandwidth capabilities to respond to the Navy ASW system design issues for the next 20 years. It is not cost effective to replace the VCRs since they require extensive modification and the system would still be of limited capacity. Requirement for CPP Project. The optimum design (array length and inter-node distances) and implementation of the next generation Anti-Submarine Warfare (ASW) systems requires a detailed understanding of the physics of random media propagation and scatter in the littoral seas. The relationship between acoustic signal amplitude and coherence variability and the oceanographic processes which cause that variability must be established. The relationship of the size and temporal extent and spatial distribution of sound ribbons to oceanographic variability must be established. These sound ribbons may offer ASW system gain greater than ideal. The broadband acoustic clutter resulting from scatter from the bottom and subbottom and the relationship to the bottom roughness and subbottom heterogeneity and surface roughness must be understood. The angular distribution of sound radiated from hulls in the far field must be measured. The measurements required to establish the relationship of the above variables to environmental variability and the operation parameters of vessels have not been made for broadband acoustic signals propagating in the spatial temporal variable littoral seas. The reason for the lack of measurement is the lack of a research quality portable Sea-Going Acoustic Measurement System (SGAMS) which permits the placement of multinode multichannel broadband (0-2-kHz) large aperture arrays, multichannel beamformers and recording systems in the littoral setting. It is expected that this system would be deployed at-sea two to four times a year. Economic Analysis Summary. Commercial-off-the-shelf systems that would meet the unique needs of NRL researchers do not exist. One time engineering cost for a leased system would make the lease cost higher than purchasing the system, given the expected 7-year life. System justification is based on cost avoidance to the leasing alternative. This system provides new technology to accomplish current mission. The proposed system will provide NRL with a flexible system usable in Acoustics research and is one which will support the Navy's acoustic measurement needs into the next century. The system is based on the latest state-of-the-art sampling equipment and recording equipment and will be designed to have maximum flexibility. Impact of Project Disapproval. To maintain responsiveness to acoustic research issues which must be addressed for the next generation of Navy surveillance and tactical ASW systems, it is imperative that a SGAMS system be acquired by NRL. The SGAMS will be used to conduct at-sea measurements in support of a broad range of NRL 6.1, 6.2 and 6.3 programs. NRL owns several other systems, but none have the frequency bandwidth, multinode and large channel capacity necessary to support experiments which will enable acoustic experimentist and theoreticians to define the environmentally imposed limits on modern acoustic signal processing and multinode ASW systems. The arrays associated with the existing systems are all fixed in frequency and aperture; there is no reconfiguration flexibility as required for present day research.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 2001. Various Non-ADP Equipment	D. Activity Identification Naval Research Laboratory Washington, DC 20375

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
Non-ADP Equipment >$100,000 <$500,000				32		5770	45		8884			

Narrative Justification: This investment provides the most impact to the greatest number of people and projects supported by the Laboratory. All items in this category are research equipment for research divisions. Examples follow: Upgrade to Microwave/Infrared Measurement Capability, Digital RF Memory (DRFM) for Radar Testing, Receiver Dynamic Range Measurement System, Millimeter Wave Network Analyzer System Upgrade, Buffered BLDS Visualization SYSTEM, RF Signal Processing System, Portable Cellular Test Bed, Magic Edge Capsule and Motion Base, Picosecond Laser, Atomic Force Microscope/Scanning Capacitance, SFF/RP Facility, Closed-Loop Radio Frequency (RF) Irradiation System, Transient Recording System Upgrade, Agile Mirror Hardware Upgrade, X-Ray Framing Camera, ECR Based Neutral Beam Etch Facility, Epicenter Vacuum Processing Capability, Microscope Nanostructure Spectrometer, Mask Aligner Wafer Coating System, Environmental Data Acquisition System, X-Band Antenna Array System, Capability for High Resolution Time Domain, Increased Capacity Auto Changer, Frequency Agile Signal Simulator (FASS), Long Term Acquisition System, Antenna System, Femtosecond Optical Parametric Oscillator Laser, SDH/SONET Analyzer, High Performance Multispectral Processing System, Femosecond Laser Source for Non linear Optics Evaluation, Snapshot Mode Focal Plane Array IR Camera System, Frequency Synthesizers for Step Frequency Radar, IR Threat Image Processing Lab, Frequency Agile Signal Simulator Upgrade, Digital RF Memory Unit, 8703A Lightwave Component Analyzer, Micro-UAV Wind Tunnel Test Facility, Fast Laser Spectrometer, Mechanical Property Spectrometer, Spectrometer for Chemical Analysis, Variable Temp Analysis System for the Transm Electr Microsc, XENON Weather-Ometer Environmental Test Chamber, Scanning Laser Microscope, Hyperspectral Materials Analysis Facility, 1.5 Dia Mirror Construction and Radar Testing Hardware, Time-resolved, Hard X-ray Image Detection System, Single Frequency Ring Laser System, Reactive Ion Etching System for Chlorinated Gases, Scanning Electron Microscope Facility, Legis 13-Element Soft X-ray Fluorescence Detector, X-Ray Diagnostic System, High-Speed Digitizing, Recording, and Analyzing System, Six-Inch DUV Mask Aligner, Satellite Earth Station Downlink, CCD Camera System for NPOI, High Energy Nd: YAGDPIV System, In-situ Littoral Hydrographic Monitoring System, Multifrequency Imaging System, Upgrade Multichannel System, High Speed Network Infrastructure, GLAST Prototype Development System, Vibration Isolated Vacuum Collimator for UV and an Optical Metrology Facility. The Naval Research Laboratory is a highly technical and sophisticated research center requiring state-of-the-art technology to satisfactorily accomplish its mission. Much of the equipment planned for purchase replaces items that are currently operating in a degraded mode because of their age and because their technology no longer supports current and projected requirements. The need to maintain a state-of-the-art equipment base is critical in all areas of science, technology, warfare systems, sensors research, materials and space technology.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 3002. Andrew File System/Distributed File Server	D. Activity Identification Naval Research Laboratory Monterey, CA 93943

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
ADP Equipment >$500,000				1	982	982						

Narrative Justification: Status Quo and Shortcomings. The Naval Research Laboratory (NRL) is currently straining to meet its file serving needs by employing over a dozen Network File System servers. These servers are predominately based on SPARC 2 platforms. The current arrangement has severely limited processing power and is constrained in its ability to address additional disk space. The administrative concerns of trying to balance server loads and evenly distribute disk usage, while still presenting an orderly interface to the users has reached a critical limit. Requirement for CPP Project. A major upgrade in the hardware and software used to meet the file serving needs of NRL will increase NRL's productivity by presenting a consistent, more secure, user interface accessible from the local workstation through global file space. The proposal will increase availability of software to the local user by allowing access to the Online-software project managed by NRL DC's Central Computer Facility. It will allow more consistent access to DOD High Performance Computer assets as they begin to be incorporated into the Distributed Computer Environment/Distributed File System environment. This project will further provide the storage space and access method to both internal researchers and external research collaborators to perform studies on the data stored (e.g., the 10-year re-analysis) in the system. The proposed hardware will allow local storage and access to data so that projects such as a 10 year re-analysis can be carried out without depending on unreliable access to Fleet Numerical Meteorology and Oceanography Center, silos and resources. It will provide reliable access to data, not only on site, but also to remote users who access data. It will allow individuals to access data and programs from their offices as if the data was actually on their computers, thus increasing efficiency by providing the users with a familiar interface. Economic Analysis Summary. With a benefit to investment ratio of 10.70 this is the recommended choice. Leasing is not an option since our research requires access to third party software not readily available under lease contracts. Systems also contain sensitive data which also makes leasing impractical. Impact of CPP Project Disapproval. NRL's file servers are currently straining to keep up with user demand because they are based on old disk technology and slow processors. The file server infrastructure has grown without any design or consideration of file storage or migration needs. Disapproval of this project would exacerbate an already undesirable situation that currently impacts the ability of researchers to reliably process, store, archive, and retrieve their data

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)	A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**

B. Component/Activity Group/Date	C. Line No. & Item Description	D. Activity Identification
Department of the Navy Research and Development 02 February 1998	3003. Multi-Use Workstation Cluster	Naval Research Laboratory Stennis Space Center, MS 39529

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
ADP Equipment >$500,000				1	700	700						

Narrative Justification: Status Quo and Short Comings. The Naval Research Laboratory (NRL) current workstations, which consist of 33 Sun SPARCstation 10/20 compatible workstations and 26 older SPARCSTATIONS (a mix of SCL's, IPC's, IPX's, LX's, 1+'s, and 2's), fail to meet our future goals. Almost half of c workstations will be two or even three generations behind the state-of-the-art. This significantly degrades their usefulness as tools for scientific productivity in area: such as visualization and diagnostic calculations. Requirements for CPP Project. To maintain a leading technological edge in ocean modeling, NRL needs to upgrade the 26 older workstations to state-of-the-art workstations. NRL's ocean modelers represent about 50% of the Navy's overall High Performance Computin requirement. The UltraSPARC systems would all be configured with mid-performance 3-D graphics hardware, giving us desktop 3-D capability. The most significan and unique aspect of this acquisition, however, is the "clustering" of these workstations. In addition to acting as individual desktop systems, the use of the load sharing package "LSF" (Load Sharing Facility) will allow all 26 systems to act as a powerful "workstation cluster" at night and during the day when the interactive workload permits. ATM (Asynchronous Transfer Mode) networking will be employed to connect the nodes of the cluster. We project an ever-increasing need to dc our model development on our local systems since it is very difficult to perform on DOD's High Performance Computer (HPC) computer systems. An average batcl wait time of two days is not excessive for a 36 CPU hour job, but tens of debug/compile/run cycles are needed every workday at some stages of development. The compilers on some HPC systems are very low and less than reliable, which makes a stable local platform an attractive alternative. Providing a separate multi-cpu compute server as well as individual workstations also meets our goals, but at a higher cost and with less room for expansion. Economic Analysis Summary. The status quo will not support research needs. The benefit to investment ratio of 5.42 make this proposal the recommended choice. Impact of Project Disapproval. NRL does not currently have a shared compute server, and existing individual workstations, even acting as a workstation cluster, are not sufficiently powerful to handle the projected increase in local computing needs caused by the tripling of DOD HPC capacity every 12 to 18 months for the next several years. We will have nowhere tc run time-cricital applications, and the disparity in capability amongst our existing workstations limits their usefulness as a platform for developing scalabl applications. The NRL core 6.1 Low Latitude Western Boundary Currents, 6.2 Very High Resolution Coastal Currents, and 6.2 Coastal Ocean Simulation, as well as our 6.2 NOMP Coastal and Semi-Enclosed Seas and Large Scale Modeling project, will all see immediate positive impacts in enhanced model development speed more realistic pseudo-operational testing, and highly improved graphics capabilities.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 3004. High Speed Network Infrastructure	D. Activity Identification Naval Research Laboratory Monterey, CA 93943

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
ADP Equipment >$500,000							1	698	698			

Narrative Justification: <u>Status Quo and Short Comings.</u> Currently, the existing network at the Naval Research Laboratory (NRL) consists of 6 ethernet segments providing a combined 60 mbit/sec bandwidth. This configuration negatively impacts many research projects that require distributed processing, high-speed data access, web access, and archive capacity. System backups frequently time-out due to network latency and many systems are not backed up at all, or are done very infrequently. In addition, the network components are not based on industry standards; they are proprietary and becoming more expensive to maintain and replace. <u>Requirement For CPP Project.</u> Implement a novel high-speed network infrastructure to facilitate data migration, multimedia applications, telecollaboration, and distributed processing. The proposed network consists of three switching enterprise hubs with an Arynchromous Transfer Mode (ATM) backbone that would provide 200 mbit/sec dedicated network throughput to each office space at the NRL Monterey compound. This throughput would be accomplished by switching full duplex Fiber Distributed Data Interface (FDDI) network segments to hubs located in each office. Thus, each office becomes its own collision domain with a dedicated 200 mbit/sec uplink to the ATM backbone. Such a network can be accomplished with FDDI technology, a stable, well documented standard that has a proven track record of use as a backbone technology. This approach leverages the existing fiber cable plant already in place at NRL Monterey and is compatible and adaptable to existing and future technologies. <u>Economic Analysis Summary.</u> The financial benefits of establishing a reliable network cannot be overstated. The benefit to investment ratio is 16.51. Leasing is not an option for a high-speed network because of the extensive customization and configuration required to service a constantly changing user base. The flexibility required to quickly respond to new or moved users, increases in bandwidth, and new technology cannot be realized with leased systems. In addition, the dynamic physical cable paint and switching components required to accommodate many user changes cannot be handled efficiently with a leased system. <u>Impact of CPP Project Disapproval.</u> The current technology does not have the capacity to provide the bandwidth required now, let alone the bandwidth anticipated to be required at the turn of the century. The limited performance of the network when operating correctly negatively impacts researchers because of the inability to do distributed processing, data access, web access, and archiving in a timely manner.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 4001. Various ADP Equipment	D. Activity Identification Naval Research Laboratory Washington, DC 20375

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
ADP Equipment >$100,000 <$500,000				10		2854	5		1295			

Narrative Justification: Status Quo and Short Comings. At the core of much of the highly technical and sophisticated research accomplished at the Naval Research Laboratory are equally technical and sophisticated computer systems. NRL research divisions make use of a wide variety of computers to accomplish the objectives of R&D projects. The uniqueness and complexity of these projects requires equally unique and complex ADP support. In some cases, upgrades are required because manufacturers will not support obsolete operating systems/equipment. The items scheduled for purchase are the minimum necessary to meet daily R&D mission operating requirements, effectively manage R&D resources and meet customers R&D requirements. Examples of items to be purchased are Network Server System Distributed Virtual Environment System, Network Multicast Capability, Airborne Marconi/Calcomp Satellite Telephone System, Special Projects Multi-CPU Compute-Server, Origin 2000 8-Node Computer System, SGI Shared-Memory Multiprocessor, RAID Disk Array System, Very High-Performance Local Area Research Network, Integrated Design Facility, Multiple Mobile Robots Facility Upgrade, Network Enhancement System, Computer System Upgrade, DCE/DFS Server System, and File Server and Archive System.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 5001. NAVAIR Industrial Financial Management System (NIFMS)	D. Activity Identification Naval Research Laboratory Washington, DC 20375

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
Software Development >$500,000							1	805	805			

Narrative Justification: <u>Status Quo and Short Comings.</u> The Under Secretary of Defense, Comptroller designated the Naval Air Systems Command Industrial Financial Management System (NIFMS) as the interim migratory system for the Research and Development DBOF business area. The implementation schedule provided by the Principal Deputy, Assistant Secretary of the Navy, Financial Management and Comptroller, states that NRL will begin NIFMS deployment in November 1998 and complete full implementation by January 2000. Funding is required for approved NIFMS system enhancements, site preparation, interfaces, activity unique business process requirements, hardware, connectivity and training.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 6001. Various Software Development	D. Activity Identification Naval Research Laboratory Washington, DC 20375

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
Software Development >$100,000 <$500,000				3	478	478	2	177	177			

Narrative Justification: Status Quo and Short Comings. At the core of much of highly technical and sophisticated research accomplished at the Naval Research Laboratory are equally technical and sophisticated computer systems. NRL research divisions make use of a wide variety of computers and software to accomplish the objectives of R&D projects. The uniqueness and complexity of these projects requires equally unique and complex ADP software support. The items to be purchased are the STILAS Replacement Library On-Line Information System for FY98, and the Cash Model License Purchase and the DIFMS/NIMMS/T&A Reengineering for both FY98 and FY99.

ACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION (Dollars in Thousands)		A. Budget Submission **FY 1999 PRESIDENT'S BUDGET**
B. Component/Activity Group/Date Department of the Navy Research and Development 02 February 1998	C. Line No. & Item Description 7001. Various Minor Construction	D. Activity Identification Naval Research Laboratory Washington, DC 20375

				FY 1998			FY 1999					
Element of Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost	Quan	Unit Cost	Total Cost
Minor Construction >$100,000 <$300,000				5		1219	5		1073			

Minor construction funds will be used for the improvement and the upkeep of the physical plant at NRL. The infrastructure provides lab and office space required to permit the Navy to conduct the necessary basic research, applied science, and applied technology applicable to uses of space in support of Navy DoD mission. Specifically, minor construction facilities are needed for the management and integration of satellite systems and subsystems into scientific and mission payloads. Labs are needed to allow exploratory development of subsystems, systems analysis and engineering, and mission system simulations. NRL will provide for additional space by constructing a mezzanine in the high bay area for lab space. Existing mechanical and electrical systems do not have the capacity to support state-of-the-art research. Expanded mechanical rooms, mechanical chases and mechanical and electrical capabilities are required. Stormwater runoff from a large section of the Stennis Space Center is required. Another example of minor construction projects to be accomplished with this authorization is the upgrade of existing ductbanks for cableways. NRL will provide adequate cableway to accommodate continuing state-of-the-art telephone and communication requirements. A central chilled water plant will provide efficient cooling of existing research spaces. Also, there is currently inadequate chilled water supplied to the facility. A mini chilled water plant that is located in a building being excessed which will be disposed of by demolition. The mini chilled water plant which serves two other buildings must be relocated before demolition.

CAPITAL BUDGET EXECUTION
Department of the Navy - Navy Working Capital Fund
Activity Group: RESEARCH AND DEVELOPMENT, NAVAL RESEARCH LABORATORY
FY 98
FY 1999 Budget Estimate

PROJECTS ON THE FY 1998/1999 PRESIDENT'S BUDGET
(Dollars in Millions)
Feb 98

FY	Approved Project	Reprogs	Approve Proj Cos	Current Proj Cost	Asset/ Deficiency	Explanation/ Reason for Change
	Equipment except ADPE and TELECOM					
98	Equipment except ADPE and TELECOM < 500K		5.999	5.770	(0.229)	1/
98	Stabilized Precision Aircraft Optical Mount		1.200	1.200	0.000	
98	Mobile Global Broadcast System		0.960	0.960	0.000	
98	Enhancements for the Structural Sensing and Attitude Contro		0.660	0.660	0.000	
98	Scanning Slope Sensor Buoy		0.520	0.520	0.000	
	Total Equipment except ADPE and TELECOM	0.000	9.339	9.110	(0.229)	
	Equipment - ADPE and Telecomm					
98	Equipment - ADPE < 500K		2.625	2.854	0.229	1/
98	Andrew File System/Distributed File Server		0.982	0.982	0.000	
98	Multi-Use Workstation Cluster		0.700	0.700	0.000	
	Total Equipment - ADPE and Telecomm	0.000	4.307	4.536	0.229	
	Software Development					
98	Cash Model License Purchase		0.000	0.004	0.004	2/
98	DIFMS/NIMMS/T&A Reengineering		0.135	0.474	0.339	3/
	Total - Software Development < 500K	0.000	0.135	0.478	0.343	
98	Minor Construction					
	Total - Minor Construction	0.000	1.219	1.219	0.000	
	Total FY 1998 Capital Purchase Program	0.000	15.000	15.343	0.343	

1/ NRL requested reprogramming to fill more critical research needed in the ADP Category for Origin 2000 8-Node computer system. This system is required to support research by the Laboratory for the Structure of Matter and for the Complex Systems Theory Branch, which require a computer with parallel processing capability based on shared memory parallelism, high speed interconnections with existing systems and guaranteed timely access.

2/ $4K per ASN (FM&C) assessment to fund Cash Model License Purchase.

3/ $339K per ASN (FM&C) assessment to fund DIFMS/NIMMS/T&A Reengineering.

CAPITAL BUDGET EXECUTION
Department of the Navy - Navy Working Capital Fund
Activity Group: RESEARCH AND DEVELOPMENT, NAVAL RESEARCH LABORATORY
FY 99
FY 1999 Budget Estimate

PROJECTS ON THE FY 1998/1999 PRESIDENT'S BUDGET
(Dollars in Millions)

FY	Approved Project	Reprogs	Approved Proj Cost	Current Proj Cost	Asset/ Deficiency	Explanation/ Reason for Change
	Equipment except ADPE and TELECOM					
99	Equipment except ADPE and TELECOM < 500K		8.709	8.884	0.175	
99	Robotics Engineering Laboratory		1.000	0.950	(0.050)	1/
99	Sea-Going Acoustic Measurement System		0.850	0.900	0.050	1/
99	EMI Test Chamber		0.750	0.000	(0.750)	2/
99	Airborne Salinity Mapper		0.625	0.000	(0.625)	2/
99	Mobile Optical Data Collection Site		0.000	1.200	1.200	2/
	Total Equipment except ADPE and TELECOM	0.000	11.934	11.934	0.000	
	Equipment - ADPE and Telecomm					
99	Equipment - ADPE < 500K		1.295	1.295	0.000	
99	High Speed Network Infrastructure		0.698	0.698	0.000	
	Total Equipment - ADPE and Telecomm	0.000	1.993	1.993	0.000	
	Software Development					
99	Cash Model License Purchase <500K		0.000	0.002	0.002	3/
99	DIFMS/NIMMS/T&A Reengineering <500K		0.000	0.175	0.175	4/
99	NAVAIR Industrial Financial Management System (NIFMS)		0.805	0.805	0.000	
	Total - Software Development	0.000	0.805	0.982	0.177	
99	Minor Construction					
	Total - Minor Construction	0.000	1.073	1.073	0.000	
	Total FY 1999 Capital Purchase Program	0.000	15.805	15.982	0.177	

1/ Changes for the Robotics Engineering Lab and the Sea-Going Acoustic Measurement System reflect the most current estimated costs for the items.

2/ The Mobile Opitical Data Collection Site is a new item replacing the EMI Test Chamber and the Airborne Salinity Mapper. This change was made to meet projected workload and critical research needs.

3/ $2K per ASN (FM&C) assessment to fund Cash Model License Purchase.

4/ $175K per ASN (FM&C) assessment to fund DIFMS/NIMMS/T&A Reengineering.

General Descriptions of Business Area:

The Military Sealift Command (MSC) acts as the single manager operating agency for sealift services. MSC operates under the Working Capital Fund (WFC) in two separate capacities. This submission addresses the Navy mission funded by the NWCF. MSC supports the Fleets and other DoD activities by providing service unique vessels and programs. Transportation Command (TRANSCOM) provides sealift support for other DoD cargoes in peacetime.

Outputs and Customers through the NWCF:

MSC supports various Navy, Air Force and National Defense Sealift Fund service requests with unique vessels and programs. The three programs budgeted through the Navy Working Capital Fund (NWCF)are:

1. Naval Fleet Auxiliary Force (NFAF) which provides support utilizing civilian mariner manned non-combatant ships for material support.
2. Special Mission Ships (SMS) which provide unique seagoing platforms.
3. Afloat Prepositioning Force - Navy (APF-N) which deploys advance material for strategic lifts.

Budget Highlights:

NFAF: The current estimate reflects USNS SHASTA and USNS KISKA Civilian Modifications (CIVMOD) costing $40M vice $30M. Other developments include reduced operational status (ROS) operation of USNS SHASTA and USNS KISKA due to extension of their Civilian Modifications as well as deactivation of the USNS SAN DIEGO and USNS MARS. Additionally, the MT HOOD will not transfer to MSC operation, remaining instead under Navy operation. This budget also reflects re-activation of the USNS HIGGINS, USNS ERICSSON and USNS GRUMMAN to support fleet assets. The USNS KISKA and USNS SHASTA will complete their CIVMOD and operate as FOS vessels. MSC will also deactivate the USNS APACHE during FY 1999.

SMS: This submission reflects deactivation of the USNS WYMAN and USNS RANGE SENTINEL. The USNS WATERS changed sponsorship from NAVOCEANO to DIRSSP and the USNS STALWART continued to operate in full operational status (FOS) vice ROS status. Other recent developments include deactivation of the USNS VANGUARD, re-activation of the USNS WATERS and extended FOS service for the USNS KANE.

<u>APF-N:</u> Construction costs of MPF-E class ships for $51.4M are included in this submission. Additionally, FOS operation of the GREEN RIDGE is included for 301 days as well as a reduction in expected FOS operation of the USNS MARTIN (MPFE-1) from 365 days to 61 days.

ANALYSIS OF COST OF OPERATIONS: MSC FY 1997 costs include CIVMOD of two T-AEs that will be completed in FY 1998. The T-AEs will operate in Full Operating Status (FOS) during FY 1999. MSC will also receive another T-AE in FY 1999 which is expected to operate in Reduced Operating Status (ROS). MSC also will reactivate a new T-AGS during FY 1998 and three T-AO 187 class oilers during FY 1999. In addition, the FY 1998 cost increase reflects inclusion of the initial lot of the T-AGOS 23 class vessels and one full-year operation of those ships that were accepted in FY 1997.

Table One: COST
($ in Millions)

	FY 1997	FY 1998	FY 1999
DIRECT COST	1,084.4	1,048.4	1,100.6
COST OF G&A	102.0	108.6	114.7
TOTAL COST	1,186.4	1,157.0	1,215.3

REVENUE ANALYSIS: The change between FY 1997 and FY 1999 is attributable to four factors: (1) FY 1998 rates reflect recovery of $52.1 million for prior years losses, (2) FY 1998 and FY 1999 rates include surcharges of $65.8 and $20.8 million, respectively, (3) FY 1999 rates return $23.6 million for prior years' gains, and (4) miscellaneous workload changes will generate $20.8 million more revenue in FY 1998 and $1.4 million less in FY 1999.

Table Two: REVENUE
($ in Millions)

	FY 1997	FY 1998	FY 1999
TOTAL REVENUE	1,141.1	1,279.7	1,212.5

ANALYSIS OF AOR/NOR: FY 1997 execution produced a $45.3 million loss due to changes in workload. The FY 1998 rates were previously computed to achieve a profit of $52.1 million but current execution estimates reflect a profit of $56.9 million due primarily to the change in guidance in FY 1998 inflation escalation rates. The FY 1999 rates were computed to yield an accumulated operating result of zero.

Table Three: AOR/NOR
($ in Millions)

	FY 1997	FY 1998	FY 1999
BEGINNING AOR	12.0	(33.3)	23.6
SURCHARGE	0.0	65.8	20.8
NET OPERATING RESULTS	(45.3)	122.7	2.8
ENDING AOR	(33.3)	23.6	0.0

UNIT COST ANALYSIS: MSC operates under three distinct unit cost goals in this business area - one for each of the programs. All programs use cost/per day as their unit cost base (costs will include only per diem expenses). The NFAF program is experiencing a significant degree of fluctuation due to changes in workload orders subsequently summarized in this paragraph. Three T-AEs costing $73.3K/day and three T-AO costing $53.2K/day will begin FOS operation vice being deactivated or upgraded from ROS status. Additionally, one T-AE will be added as a ROS vessel. MSC will deactivate four T-AFSs that were expected to cost $31.5K/day and $8.6K/day while in ROS 30 and ROS 90 status, respectively and two T-ATFs costing $17.5K/day. The APF-N program is experiencing a decline in FY 1999 with the addition of the Cape Jacob which costs only $30K/day vice $76K/day. The SMS program, while deactivating the T-AG 194 which costs $34.9K/day, is reactivating lower cost ships such as the T-AGS 45 and T-AGOS 10 which cost $11K/day

Table Four: UNIT COST
(Dollars)

	FY 1997	FY 1998	FY 1999
Cost per ship day			
NFAF	39,156	41,296	45,191
SMS	16,086	16,824	15,393
APF-N	74,159	75,741	72,593

WORKLOAD INDICATORS: The NFAF program shows a significant increase due to the transfer of T-AEs from the regular Navy, four of which will be generating Per Diem costs and revenue by the end of FY 99, reactivation from INACTSHIPS of one T-AO and two T-AOs which are currently in ROS status. Four ships, 2 T-AFSs and 2 T-ATFs are being deactivated in the NFAF program. The SMS program reflects changes caused by the addition of four vessels while three others are being deactivated.

Table Five - WORKLOAD
(Per Diem Ship Days)

	FY 1997	FY 1998	FY 1999
NFAF	11,937	11,800	12,315
SMS	8,118	8,375	8,679
APF-N	5,073	5,110	5,472

CUSTOMER RATE PERCENTAGE CHANGES: FY 1997 rates reflect the program approved in the President's Budget. FY 1998 changes include the impact of FY 1997's AOR that was generated from previously approved FY 1997 rates. The most noticeable FY 1998 changes include the requirement to recover a cash surcharge of $65.8 million. The cash surcharge for FY 1999 was decreased to $20.8 million.

Table Six - CUSTOMER RATE CHANGES

	FY 1997	FY 1998	FY 1999
NFAF	(7.5%)	41.1%	(20.8%)
SMS	(28.0%)	3.0%	6.9%
APF-N	(4.0%)	9.6%	(6.8%)

MANPOWER TRENDS: **Direct:** The NFAF program reflects addition of three T-AEs in FOS status by the end of FY 1999, reactivation of three T-AOs, deactivation of two T-ATFs and two T-AFSs. The SMS program reflects the general change in ship operation from CIVMAR to contract operation and deactivation of one T-AGM.
Ashore: Reflect the efficiencies to be achieved from MSC's Reinvention Initiative.

Table Seven: Manpower by Major Program

	FY 1997	FY 1998	FY 1999
End strength (Civ/Mil)			
NFAF	2,858/696	2,769/737	3,174/730
SMS	269/33	265/33	221/33
APF-N	6/69	6/69	6/82
Overhead	1,142/189	1,221/182	1,196/185
Total	4,275/987	4,261/1021	4,597/1030
Workyears	5,498/987	5,576/1021	5,931/1030

OVERHEAD TRENDS/ANALYSIS: Overhead/G&A relates to all costs incurred by the ashore staff. MSC continues to reduce G&A costs through use of various QMB and PAT teams that have been established for review of infrastructure requirements. To that end, MSC has reviewed all costs with an eye at achieving

overall prudent, yet substantial, reductions. The relative small program growth in both FY 1998 and FY 1999 is associated with reinvention efforts and the continued realignment between TRANSCOM and Navy workload. This submission also includes reimbursable costs associated with two BRAC moves, $12M and $1M for FYs 1998 and 1999, respectively.

ANALYSIS OF FINANCIAL CONDITIONS: FY 1997 rates were set at a level below costs in most of the programs to return prior year profits. The FY 1998 AOR reflects a profit of $23.6 million; the FY 1999 rates reflect the return of this profit.

Table Eight: Financial Condition
($ in Millions)

	FY 1997	FY 1998	FY 1999
REVENUE	1,141.1	1,279.7	1,212.5
EXPENSE	1,186.4	1,157.0	1,215.3
SURCHARGE/	0.0	65.8	20.8
NOR	(45.3)	122.7	2.8
TRANSFER	0.0	0.0	0.0
AOR	(33.3)	23.6	0.0

PRODUCTIVITY INITIATIVES/COST REDUCTIONS: MSC continues to take proactive, total-cost reduction strides and projects cost avoidance of nearly three percent in each program through productivity initiatives. MSC has reexamined the MPS and NAVOCEANO operating contracts and was able to project savings in operating hire contracts of $33.2 million in FY 1999. MSC has also reduced costs by use of volume discounts on the procurement of lube oil and associated chemicals. The hull/propeller polishing program has generated a fuel consumption savings of nine percent on those ships completed. MSC has initiated a program to test the lube oil for foreign matter and use of vibration analysis to help detect engineering failures before they happen. The Automated Residual Asset Management system, an integral part of the Supply Management System, has created a cost avoidance of at least $8.4M for FY 1997 through astute management of over 25,100 line items of stock. These and other such programs have helped MSC keep costs increases at a minimum even though MSC is accepting larger, more complex ships.

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
COMSC / COMSC

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	1,137.0	1,209.9	1,187.2
Surcharges	.0	65.8	20.8
Depreciation excluding Major Constructio	4.1	4.1	4.5
Other Income			
Total Income	1,141.1	1,279.7	1,212.5
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	39.7	35.2	37.6
Civilian Personnel	268.6	271.8	299.6
Travel and Transportation of Personnel	9.9	18.0	12.5
Material & Supplies (Internal Operations	88.7	105.5	106.5
Equipment	29.0	23.2	29.1
Other Purchases from NWCF	3.1	.6	.6
Transportation of Things	4.6	1.9	1.7
Depreciation - Capital	4.1	4.1	4.5
Printing and Reproduction	.2	.3	.2
Advisory and Assistance Services	2.1	1.8	1.3
Rent, Communication & Utilities	21.8	19.0	20.7
Other Purchased Sevices	714.6	675.6	700.9
Total Expenses	1,186.4	1,157.0	1,215.3
Work in Process Adjustment	.0	.0	.0
Comp Work for Activity Reten Adjustment	.0	.0	.0
Cost of Goods Sold	1,186.4	1,157.0	1,215.3
Operating Result	-45.3	122.7	-2.8
Less Surcharges	.0	-65.8	-20.8
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	.0	.0	.0
Net Operating Result	-45.3	56.9	-23.6
Other Changes Affecting AOR	.0	.0	.0
Accumulated Operating Result	-33.3	23.6	.0

Exhibit Fund-14

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
COMSC / COMSC

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	1,389.3	1,122.6	1,212.5
a. Orders from DoD Components	1,387.6	1,121.9	1,211.8
Department of the Navy	1,313.7	1,078.4	1,179.3
O & M, Navy	900.4	1,231.5	1,167.5
O & M, Marine Corps	.0	.0	.0
O & M, Navy Reserve	.0	.0	.0
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	.0	.0	.0
Weapons Procurement, Navy	.0	.0	.0
Ammunition Procurement, Navy/MC	.0	.0	.0
Shipbuilding & Conversion, Navy	55.7	4.0	11.8
Other Procurement, Navy	.6	.0	.0
Procurement, Marine Corps	.0	.0	.0
Family Housing, Navy/MC	.0	.0	.0
Research, Dev., Test, & Eval., Navy	.0	.0	.0
Military Construction, Navy	.0	.0	.0
Other Navy Appropriations (NDSF)	356.9	-157.1	.0
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	-.5	.0	.0
Army Operation & Maintenence	-.5	.0	.0
Army Res, Dev, Test, Eval	.0	.0	.0
Army Procurement	.0	.0	.0
Army Other	.0	.0	.0
Department of the Air Force	19.2	29.5	29.3
Air Force Operation & Maintenence	18.1	29.5	29.3
Air Force Res, Dev, Test, Eval	.2	.0	.0
Air Force Procurement	.0	.0	.0
Air Force Other	.9	.0	.0
DOD Appropriation Accounts	55.2	14.0	3.2
Base Closure & Realignment	3.9	12.0	1.0
Operation & Maintence Accounts	.0	.0	.0
Res, Dev, Test & Eval Accounts	.0	.0	.0
Procurement Accounts	.0	.0	.0
DOD Other	51.3	2.0	2.2
b. Orders from NWCF Business Area	1.8	.7	.7
c. Total DoD	1,389.4	1,122.6	1,212.5
d. Other Orders	-.1	.0	.0
Other Federal Agencies	-.4	.0	.0
Foreign Military Sales	.0	.0	.0
Non Federal Agencies	.3	.0	.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
COMSC / COMSC

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	82.4	330.6	173.5
3. Total Gross Orders	1,471.7	1,453.2	1,386.1
4. Funded Carry-Over **	330.6	173.5	173.5
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	1,141.1	1,279.7	1,212.5

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

FY 1999 PRESIDENT's BUDGET
Changes in the Costs of Operation
Military Sealift Command/Transportation
(Dollars in Millions)

	Expenses
FY 1997 Actual	1,186.4
FY 1998 Estimate in President's Budget:	1,150.3
Estimated Impact in FY 1998 of Actual FY 1997 Experience:	0.0
Pricing Adjustments:	
a. FY 1997 Pay Raise	
(1) Civilian Personnel	0.0
(2) Military Personnel	0.0
b. Annualization of Prior Year Pay Raises	
(1) Civilian Personnel	0.0
(2) Military Personnel	0.0
c. Fuel	0.0
d. Supplies	0.0
e. General Purchase Inflation	(4.9)
Program Changes (list) as appropriate	
a. DLRs	0.0
b. Manning	0.0
c. Depot Maintenance	0.0
d. Commercial Augmentation	0.0
e. Military Augmentation	0.0
f. Rent/Utilities	0.0
g. Supplies	0.0
t. Travel	0.0
i. Depreciation	0.0
j. Communication	0.0
k. ADP Services	0.0
l. Other	0.0
T-AVB ops funding transfers to Marad	(2.9)
Additional Time Charters	1.0
Cobra Gemini Program	0.4
Vanguard Inact vs FOS	(4.2)
Mars/San Diego Inact	(11.8)
Mt Hood Navy Ops vs MSC	(0.9)
Butte Upgrade	1.8
Mt Baker/Kiska Delayed CIVMOD completion	(8.3)
Shasta CIVMOD	4.7
Kane Extended	5.5
Henson delivers	3.7
Reimb. Overhead:	
Brac	12.0
Transcom	6.0
MPF-E	2.0
G&A costs-e.g travel,ADP	2.6
FY1998 Current Estimate:	1,157.0

FY1998 Current Estimate:	1,157.0
Pricing Adjustments:	
a. FY 1998 Pay Raise	
(1) Civilian Personnel	2.3
(2) Military Personnel	0.7
b. Annualization of Prior Year Pay Raises	
(1) Civilian Personnel	4.1
(2) Military Personnel	0.0
c. Fuel	(8.5)
d. Supplies	(0.2)
e. DLRs	0.0
f. General Purchase Inflation	11.2
Productivity Initiatives & Other Efficiencies:	
a. Terminal Utilization	
Program Changes:	
a. DLRs	0.0
b. Manning	0.0
c. Depot Maintenance	0.0
d. Commercial Augmentation	0.0
e. Military Augmentation	0.0
f. Flying Hour Change	0.0
g. Other	
Cobra Gemini Program	(1.1)
MPF-E Offsets	(2.5)
Santa Barbara ROS 90	2.6
Butte upgrade	8.0
Higgins FOS	16.6
Grumman Reactivation	12.1
Narragansett Inactivation	(0.5)
Apache Inactivation	(4.3)
Mt Baker FOS	14.7
Kiska FOS vice ROS	7.4
Ericsson Reactivation	13.2
Reduced M&R	(6.3)
Mars/San Diego FY98 Inact	(6.7)
Shasta complete react/FOS	3.5
Impeccable Activation	4.3
T-AGOS contract OPS	(1.3)
Vanguard Deactivation	(6.4)
Laney Chouest return to contractor	(5.1)
Henson full year OPS	3.5
Cape Jacob	4.2
Reimb. Overhead:	
Brac	(11.0)
Transcom	(0.5)
MPF-E	0.4
Military (Transcom)	1.7
Other Changes:	
a. Depreciation	0.4
b. General & Administrative	1.8
FY 1999 Estimate:	1,215.3

Business Area Capital Investment Summary
Component: Military Sealift Command
Business Area: Transportation
Date: Congressional Submission
($ in Millions)

Line Number	Item Description	FY 1997		FY 1998		FY 1999		FY 2000	
		Qty	Total Cost	Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
	Equipment								
	Replacement								
	Productivity								
	New Mission								
	Environmental Compliance								
	Sub-total	0	0.0	0	0.0	0	0.0	0	0.0
	ADPE & Telecomm								
	Computer Hardware (Production)								
	APM								
	TDMS								
	LAN								
	Computer Software (Operating)								
	Telecommunications								
	Other Communications and Telecommunications Support Equipment								
	Sub-total	0	0.0	0	0.0	0	0.0	0	0.0
	Software Development		1.3		1.2		0.5		0.0
C001	Systems		1.0		0.9		0.5		
C002	LAN								
C003	TDMS		0.3		0.3				
	Minor Construction - APM								
	Total	0	1.3	0	1.2	0	0.5	0	0.0

BUSINESS AREA CAPITAL INVESTMENT JUSTIFICATION
(Dollars in Thousands)

A. Budget Submission
FY 1999 President's Budget

B. Component/Business Area/Date

Military Sealift Command/Transportation/ February 1998

C. Line No. & Item Description

C001 Systems

D. Activity Identification

ELEMENTS OF COST	FY 1997 Qty	FY 1997 Unit Cost	FY 1997 Total Cost	FY 1998 Qty	FY 1998 Unit Cost	FY 1998 Total Cost	FY 1999 Qty	FY 1999 Unit Cost	FY 1999 Total Cost	FY 2000 Qty	FY 2000 Unit Cost	FY 2000 Total Cost
Software Development			1,011			900			500			
License Purchase					Prorata	12		Prorata	6			
Total	0		1,011	0		912	0		506	0		0

Narrative Justification:

Systems
All systems operate on existing MSC or NCTS computers. All funds are for system design, test, implementation, documentation, and user training.

Certain systems providing ship schedule/voyage management and storage/archiving/distribution of ship technical date (drawings/technical manuals) are mission critical.

Various modules integrate existing worldwide procurement system with developing/deploying financial system; this ensures validation of accounting data at time of origination, and tracking of both procurement and funds control from obligation through payment.

License Purchase
A cash model is being centrally procured for all NWCF activities. The above amounts reflect license cost associated with MSC use of model.

BUSINESS AREA CAPITAL INVESTMENT JUSTIFICATION
(Dollars in Thousands)

A. Budget Submission
FY 1999 President's Budget

B. Component/Business Area/Date

Military Sealift Command/Transportation/ February 1998

C. Line No. & Item Description

C003 TDMS

D. Activity Identification

ELEMENTS OF COST	FY 1997			FY 1998			FY 1999			FY 2000		
	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Software Development		Varies	260		Varies	285						
Total	0		260	0		285	0		0	0		0

Narrative Justification:

The Technical Data and Management System (TDMS) provides CALS and industry compatibility. TDMS provides electronic storage, import, export, revision, reproduction, and distribution of MSC technical data for global engineering and logistics operations.

Department of the Navy - Defense Business Operations Fund
Transportation/ Military Sealift Command
CAPITAL BUDGET EXECUTION
(dollars in millions)
FY 1998

Title/Description	Original Request	Change	Revised Request	Explanation/IReason for Change
Equipment (non-ADPE/TEL):				
Subtotal - Equipment				
ADPE and Telecomm Equip				
Computer Hardware	0.0	0.0	0.0	
Subtotal - ADPE/TEL Equip	0.0	0.0	0.0	
Software Development:				
TDMS/Systems/Lan	1.2		1.2	
Subtotal - Software Develop	1.2	0.0	1.2	
Minor Construction:				
	0.0	0.0	0.0	
Subtotal - Minor Construction	0.0	0.0	0.0	
TOTAL CAPITAL INVESTMENT	1.2	0.0	1.2	

Department of the Navy - Defense Business Operations Fund
Transportation/ Military Sealift Command
CAPITAL BUDGET EXECUTION
(dollars in millions)
FY 1999

Title/Description	Original Request	Change	Revised Request	Explanation/IReason for Change
Equipment (non-ADPE/TEL):				
Subtotal - Equipment				
ADPE and Telecomm Equip				
Computer Hardware	0.0	0.0	0.0	
Subtotal - ADPE/TEL Equip	0.0	0.0	0.0	
Software Development:				
TDMS/Systems/Lan	0.5		0.5	
Subtotal - Software Develop	0.5	0.0	0.5	
Minor Construction:				
	0.0	0.0	0.0	
Subtotal - Minor Construction	0.0	0.0	0.0	
TOTAL CAPITAL INVESTMENT	0.5	0.0	0.5	

DEPARTMENT OF THE NAVY
NAVAL COMPUTER AND TELECOMMUNICATIONS STATIONS
NAVY WORKING CAPITAL FUND

Activity Group Functions: The mission of the Naval Computer and Telecommunications Station (NAVCOMTELSTA) is to provide regional communication and Automated Information Systems (AIS) services to customers; to manage and direct remote facilities, as required; to provide local Information Services (IS) support in coordination with the regional center; and to design, develop, and maintain standard Navy automated information systems. NAVCOMTELSTAs are Base Level Computing IS service centers which provide IS support to a wide range of DOD customers.

Activity Group Composition:

ACTIVITIES	LOCATION
NAVCOMTELSTA Washington	Washington, D.C.
NAVCOMTELSTA Pensacola	Pensacola, Florida
NCTAMS LANT Norfolk	Norfolk, Virginia
NAVCOMTELSTA San Diego	San Diego, California
NAVCOMTELSTA Jacksonville	Jacksonville, Florida
NCTAMS Pacific	Pearl Harbor, Hawaii

Financial Profile

	FY 1997	FY 1998	FY 1999
Revenue	$ 152.4	$ 134.5	$ 123.5
Cost of Goods Sold ($ Million)	$ 163.6	$ 122.7	$ 118.2
Cash Surcharge	-0-	6.4	1.8
Net Operating Results	- 11.2	+ 11.8	+ 5.3
Accumulated Operating Results	- 8.9	-3.5	-0-

The decrease in costs between fiscal years is primarily due to reductions in contractual support and overhead costs. Specifically, the decrease reflects anticipated decreases in workload within the activity group and decreases in sales at the computer store located in the Pentagon, partially offset by approved increases in civilian payroll costs and price changes for general inflation. The FY 1998 and FY 1999 NOR reflected above is prior to the adjustment to account for the cash surcharge.

DEPARTMENT OF THE NAVY
NAVAL COMPUTER AND TELECOMMUNICATIONS STATIONS
NAVY WORKING CAPITAL FUND

Workload

	FY 1997	FY 1998	FY 1999
Labor Hours	1,417,735	1,423,908	1,421,824

Performance Indicators

	FY 1997	FY 1998	FY 1999
Very Satisfied	80%	80%	80%
Satisfied	20%	20%	20%
Not Satisfied	0%	0%	0%

Performance is measured based on customer satisfaction as determined by surveys solicited from the sub-activity group's customers to provide an assessment of products and services rendered. An 80% very satisfied rate in timeliness and quality of product delivered is viewed as a positive indicator of good performance, with a 20% satisfied rated being acceptable. The sub-activity group also has a goal of 0% not satisfied.

Customer Rate Changes

	FY1997	FY 1998	FY 1999
Stabilized Rate	$ 43.34	$ 57.85	$ 51.27*
Percentage Change in Customer Rates	- 8.9%	33.48%	-11.4%

Changes in customer rate in FY 1998 reflects removal of the customer payback of prior year AOR profit included in the FY 1997 rates. The decrease in customer rates between FY 1998 and FY 1999 is primarily due to the reduction in the cash surcharge. FY 1998 and FY 1999 rates, also, include a cash surcharge of $6.4M in FY 1998 and $1.8M in FY 1999.

*FY 1999 rate reflects anticipated modification to DFAS financial systems to allow billing of induction year rate for the life of the order.

Unit Costs

	FY 1997	FY 1998	FY 1999
Direct Labor Hour	$ 53.65	$ 61.15	$ 51.27
Contractual Support	1541.86	1622.19	1541.73
Direct Customer Support	229.22	241.16	229.20
Training	39.66	41.73	39.67

The increase in unit cost between FY 1997 and FY 1998 reflects a reduction in direct

labor hours due to further transition of direct contractor effort to direct cite funding, as well as a cash surcharge, recoupment of a prior year AOR loss, an increased inflation factor, and approved pay raises. The decrease in unit cost between FY 1998 and FY 1999 is primarily due to a slight increase in stabilized direct labor hours and a reduction in the cash surcharge.

Staffing

	FY 1997	FY 1998	FY 1999
Civilian End Strength	1,069	1,092	1,092
Civilian Workyears	1,071	1,083	1,085
Military End Strength	30	29	29
Military Workyears	23	29	29

Capital Budget Authority

	FY 1997	FY 1998	FY 1999
Authority:			
Non-ADPE Equipment	-	.238	-
ADPE and Telecommunications	.049	.735	-
Software Development	-	.004	.002
Minor Construction	-	-	-
Major Repairs	-	-	-
Total	.049	.977	.002

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
NCTC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	152.2	127.5	121.1
Surcharges	.0	6.4	1.8
Depreciation excluding Major Constructio	.2	.6	.6
Other Income			
Total Income	152.4	134.5	123.5
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	1.2	1.4	1.4
Civilian Personnel	66.6	67.9	70.2
Travel and Transportation of Personnel	2.9	1.9	1.9
Material & Supplies (Internal Operations	3.1	2.2	2.2
Equipment	18.7	12.5	12.5
Other Purchases from NWCF	3.3	3.2	3.4
Transportation of Things	.2	.3	.3
Depreciation - Capital	.2	.6	.6
Printing and Reproduction	.4	.7	.7
Advisory and Assistance Services	.0	2.6	2.6
Rent, Communication & Utilities	8.1	5.8	5.4
Other Purchased Sevices	59.2	23.6	17.1
Total Expenses	163.8	122.7	118.2
Work in Process Adjustment	.0	.0	.0
Comp Work for Activity Reten Adjustment	-.3	.0	.0
Cost of Goods Sold	163.6	122.7	118.2
Operating Result	-11.1	11.8	5.3
Less Surcharges	.0	-6.4	-1.8
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	.0	.0	.0
Net Operating Result	-11.1	5.4	3.5
Other Changes Affecting AOR	-5.4	.0	.0
Accumulated Operating Result	-9.0	-3.5	.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NCTC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	147.8	135.0	118.6
a. Orders from DoD Components	90.1	81.7	79.7
Department of the Navy	59.2	47.6	45.5
O & M, Navy	52.6	44.6	42.5
O & M, Marine Corps	.2	.4	.4
O & M, Navy Reserve	.3	.2	.2
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	.4	.5	.5
Weapons Procurement, Navy	.0	.0	.0
Ammunition Procurement, Navy/MC	.0	.0	.0
Shipbuilding & Conversion, Navy	.1	.0	.0
Other Procurement, Navy	5.4	1.3	1.3
Procurement, Marine Corps	.0	.0	.0
Family Housing, Navy/MC	.0	.0	.0
Research, Dev., Test, & Eval., Navy	.2	.4	.4
Military Construction, Navy	.0	.0	.0
Other Navy Appropriations	.0	.1	.1
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	14.3	10.1	11.2
Army Operation & Maintenence	14.3	9.7	10.9
Army Res, Dev, Test, Eval	.0	.3	.3
Army Procurement	.0	.1	.1
Army Other	.0	.0	.0
Department of the Air Force	1.6	3.0	1.9
Air Force Operation & Maintenence	1.6	2.9	1.8
Air Force Res, Dev, Test, Eval	.0	.1	.1
Air Force Procurement	.0	.0	.0
Air Force Other	.0	.0	.0
DOD Appropriation Accounts	15.0	21.0	21.0
Base Closure & Realignment	.0	.0	.0
Operation & Maintence Accounts	15.0	12.6	12.6
Res, Dev, Test & Eval Accounts	.0	.9	.9
Procurement Accounts	.0	7.6	7.6
DOD Other	.0	.0	.0
b. Orders from NWCF Business Area	49.3	36.7	22.4
c. Total DoD	139.4	118.5	102.1
d. Other Orders	8.5	16.5	16.5
Other Federal Agencies	8.5	16.5	16.5
Foreign Military Sales	.0	.0	.0
Non Federal Agencies	.0	.0	.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NCTC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	50.8	46.2	46.7
3. Total Gross Orders	198.6	181.2	165.3
4. Funded Carry-Over **	46.2	46.7	41.8
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	152.4	134.5	123.5

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

DEPARTMENT OF THE NAVY
NAVAL COMPUTER AND TELECOMMUNICATIONS STATIONS
NAVY WORKING CAPITAL FUND
SUMMARY OF OPERATIONS

Summary of Changes in Operations:

		(In Millions of Dollars) Cost of Operations
1. FY 1997 Actual Cost		$163.6
2. FY 1998 President's Budget:		$120.7
3. Estimated Impact of Actual FY 1997 Experience		---
4. Pricing Adjustments:		
a. Civilian Retirement System Changes		+ .3
b. General Inflation Changes		- .3
c. Other		+ .4
5. Program Changes:		---
a. Workload Increase		+1.6
6. FY 1998 Current Estimate		122.7
7. Pricing Adjustments:		
a. Annualization of Prior Year Pay Raises		+ .5
b. FY 1999 Pay Raise		+ 1.0
(1) Civilian Personnel	+1.0	
(2) Military Personnel	---	
c. Fund Price Changes		---
d. General Purchase Inflation		+ .2
e. Other Price Changes		---
8. Productivity Initiatives and Other Efficiencies:		---
9. Program Changes:		
a. Reductions in Other Contracts and Other Costs		- 6.2
10. FY 1999 Estimate		118.2

Exhibit Fund-2

BUSINESS AREA CAPITAL INVESTMENT SUMMARY
NAVCOMTELSTAs
Information Services/CDA
Feb-98
($ in Millions)

Line #	Item Description			FY 1997 Quantity	FY 1997 Total Cost	FY 1998 Quantity	FY 1998 Total Cost	FY 1999 Quantity	FY 1999 Total Cost
	Non-ADPE Equipment								
001	Non-ADPE Equipment (Replacement)					1	0.238		
002	Non-ADPE Equipment (Productivity)								
003	Non-ADPE Equipment (New Mission)								
004	Non-ADPE Equipment (Environmental Compliance)								
	Subtotal Non-ADPE Equipment					1	0.238		0.000
	ADPE and Telecommunications								
005	ADPE (Comp Hardware-Production)					1	0.735		
006	ADPE (Comp Software-Oper System)								
007	ADPE (Telecommunications)								
008	ADPE (Other Com/Telcom Sup Eqp)			1	0.049				
	Subtotal ADPE and Telecommunications			1	0.049	1	0.735		0.000
009	Software Development					1	0.004	1	0.002
	Subtotal Software Development				0.000	1	0.004	1	0.002
010	Minor Construction								
	Subtotal Minor Construction				0.000		0.000		0.000
	Grand Total Capital Purchase Program			1	0.049	3	0.977	1	0.002

BUSINESS AREA CAPITAL INVESTMENT JUSTIFICATION ($ in Thousands)							A. Budget Submission FY 1999 PRESBUD		
B. Component/Business Area/Date NAVCOMTELSTAs/Information Services (CDA)/ Feb-98				C. Line No. & Item Description 008 Material Management - CMIS			D. Activity Identification NCTS Pensacola		
	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
END ITEM	1	49	49						

Narrative Justification

Various Navy activities will acquire material management hardware equipment to enhance connectivity to the Configuration Management Information System (CMIS). This hardware will support the deployment of Material Management applications at various Navy locations. Once implementation of the systems is complete, inventories, rework and labor requirements will be reduced. CMIS manages system configuration data both within and between program offices and System Commands. The deployment of CMIS will enhance the accuracy of configuration data delivered through the system to facilitate the implementation of advanced readiness based sparing models, which will result in less investment for inventory spares while maintaining and possibly improving fleet readiness. A more streamlined, accurate flow of configuration data through the CMIS application will reduce the logistics infrastructure and workforce.

BUSINESS AREA CAPITAL INVESTMENT JUSTIFICATION ($ in Thousands)									A. Budget Submission FY 1999 PRESBUD
B. Component/Business Area/Date NAVCOMTELSTAs/Information Services (CDA)/ Feb-98				C. Line No. & Item Description 001 Fire Protection System			D. Activity Identification NCTAMSLANT (N68057)		
	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
END ITEM				1	238	238			

Narrative Justification

Building V-53 is a large three story building of fire-resistive construction and was erected in the 1940's for warehouse style occupancy. In recent years the building has been converted mainly into an office facility but still has some open storage areas. Office areas are constructed of numerous partitions and suspended tile ceilings. The original building was protected by an automatic wet pipe sprinkler system. Presently, approximately 50 percent of the building is not protected with sprinklers. The entire building may be completely protected with sprinklers by extending the existing sprinkler systems into the unprotected areas.

Building V-53 is provided with an inadequate fire alarm evacuation system. The existing fire alarm system has been extended numerous times into the constructed office areas which has resulted in overload notification alarm circuits and alarms sounding weakly or not all in remote areas. Additional alarm notification sounding devices are needed in many areas of the building to adequately alert occupants of a fire. The existing fire alarm system requires extensive upgrading to be considered adequate.

The existing doors to the fire-rated stair enclosures are not approved fire-rated doors as required by building and fire codes. Some of these doors have excessive glass area and lack adequate protection for the required stairway exits.

Conclusion: The automatic sprinkler system should be extended to properly protect all areas that are currently without sprinkler protection. The existing building fire alarm system should be replaced to provide a complete fire alarm system throughout the building. The existing unapproved doors to stairways should be replaced with approved fire doors. Due to unsafe conditions, this puts the life and safety potential of almost 400 people in jeopardy.

Building V-53 does not comply with current Navy and Life Safety Code Criteria; reference DOD MIL-HDBK-100B, paragraph 6.1.4.2; (C); 2.5.1 and 2.5.2.

BUSINESS AREA CAPITAL INVESTMENT JUSTIFICATION ($ in Thousands)									
B. Component/Business Area/Date NAVCOMTELSTAs/Information Services (CDA)/ Feb-98			C. Line No. & Item Description 005 Local Area Network (LAN) Upgrade				A. Budget Submission FY 1999 PRESBUD D. Activity Identification NCTAMSLANT (N68057)		
	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
END ITEM				1	735	735			

Narrative Justification

The NCTAMSLANT LAN was initially installed in 1986 using IBM 4MB Token Ring technology. The bandwidth provided by the 4MB token ring backbone and 10MB ethernet workgroup segments is not sufficient to support today's high traffic volume. NCTAMSLANT is experiencing network failure due to age of network components and is faced with increased network maintenance cost. Network failures have increased 15 percent over the last year due to congestion and age of network components.

Installing an intelligent switched based 100Mbps network backbone with ATM protocol will increase network capacity tenfold. It will allow use of centralized network management software to pinpoint and quickly isolate network malfunctions. The proposed upgrade will create a standardized topology and cable plant.

If the NCTAMSLANT LAN is not upgraded, new client/server applications which require more bandwidth will further congest and tax existing resources. Management of the mechanical-based token ring infrastructure and 10Base-2 ethernet environment is very labor intensive. Fault isolation is difficult and the system is not capable of supporting known future requirements.

An economic analysis has been performed. Implementation of the capital investment will realize a cost savings of $665,000 over the status quo.

BUSINESS AREA CAPITAL INVESTMENT JUSTIFICATION
($ in Thousands)

A. Budget Submission
FY 1999 PRESBUD

B. Component/Business Area/Date
NAVCOMTELSTAs/Information Services (CDA)/ Feb-98

C. Line No. & Item Description
009 Cash Model License Purchases

D. Activity Identification
NCTC (N00063)

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
END ITEM				1	4	4	1	2	2

Narrative Justification

In order to improve Navy Working Capital Fund cash projections, this command will purchase a site license for use of a centrally procured cash projection model software package for NWCF activities.

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
INFORMATION TECHNOLOGY/NAVCOMTELSTAs
CAPITAL BUDGET EXECUTION
(Dollars in Millions)
FY 1998

Title/Description	Original Request	Change	Revised Request	Explanation/Reason for Change
Equipment (non-ADPE/TEL):	0.238	0.000	0.238	
Subtotal - Equipment	0.238	0.000	0.238	
ADPE and Telecomm Equip:	0.735	0.000	0.735	
Subtotal - ADPE/TEL Equip	0.735	0.000	0.735	
Software Development:	0.000	0.004	0.004	Cash Model software license purchase
Subtotal - Software Develop	0.000	0.004	0.004	
Minor Construction:	0.000	0.000	0.000	
Subtotal - Minor Construction	0.000	0.000	0.000	
TOTAL CAPITAL INVESTMENT	0.973	0.004	0.977	

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
INFORMATION TECHNOLOGY/NAVCOMTELSTAs
CAPITAL BUDGET EXECUTION
(Dollars in Millions)
FY 1999

Title/Description	Original Request	Change	Revised Request	Explanation/Reason for Change
Equipment (non-ADPE/TEL):	0.000	0.000	0.000	
Subtotal - Equipment	0.000	0.000	0.000	
ADPE and Telecomm Equip:	0.000	0.000	0.000	
Subtotal - ADPE/TEL Equip	0.000	0.000	0.000	
Software Development:	0.000	0.002	0.002	Cash Model software license purchase
Subtotal - Software Develop	0.000	0.002	0.002	
Minor Construction:	0.000	0.000	0.000	
Subtotal - Minor Construction	0.000	0.000	0.000	
TOTAL CAPITAL INVESTMENT	0.000	0.002	0.002	

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY/INFORMATION SERVICES/FMSO
FEBRUARY 1998

Activity Group Functions:

The Navy Fleet Material Support Office (FMSO) is a progressive, full service software design activity with over 30 years of proven experience providing high quality, on time products and services to customers, under the management of the Naval Supply Systems Command (NAVSUP). FMSO possesses a multi-talented workforce, highly experienced in state of the art systems development using information technology to design, develop, maintain, and support automated systems.

Customer services provided include system design, analysis, programming, business process and data modeling, integration with interfacing information systems, documentation, configuration management, customer system training and others. FMSO operates as a fee for service activity in the Navy Working Capital Fund, Information Services Activity Group. As such, FMSO is responsible for the development, implementation and maintenance of Automated Information Systems (AIS) for the business areas required by customers. Customers include Department of Defense (DOD), Non-DOD, other Federal, and authorized foreign military sales; specific customers include NAVSUP and all of its field activities, the Defense Finance and Accounting Service Cleveland Center, the Joint Logistics Systems Center (JLSC), the Defense Information Systems Agency, the Strategic Systems Project (SSP), the Royal Saudi Naval Forces, the Defense Logistics Agency, and others. FMSO is the first Navy activity to achieve a Capability Maturity Model (CMM) Level III rating. The CMM rating certifies that FMSO is in a select group of software activities, since fewer than ten percent of all activities assessed have a rating of III or higher.

Activity Group Composition:
Navy Fleet Material Support Office
Mechanicsburg, PA

Financial Profile		FY 1997	FY 1998	FY 1999
Revenue		$78.54	$72.16	$72.54
Cost of Goods Sold ($ Millions)		$82.75	$71.19	$71.57
Cash Surcharge		0	+$3.69	+$1.14
Net Operating Results (NOR)		-$4.20	- $2.72	-$.17
Accumulated Operating Results (AOR)		$2.89	$.17	0

Cost of goods sold:

The decrease between FY 1997 and FY 1998 is the net result of a $13.9M decrease in contractual support and other costs incurred for the direct benefit of a specific customer partially offset by the increase from approved price increases for general inflation and changes in civilian payroll costs. The increase between FY 1998 and FY 1999 is attributed to approved price increases for general inflation and changes in civilian payroll costs. The FY 1998 and FY 1999 NOR reflected above is after adjustment to account for removal of the cash surcharge.

Overhead Rate:

The labor overhead rate is 18.1% of total labor cost in FYs 1997-1999.

Net Operating Result/Accumulated Operating Result:

For FY 1997, the effect of Prior Year contractual support and other costs incurred for the direct benefit of a specific customer processing resulted in a NOR of -$4.20M and brought the AOR to $2.89M. $2.72M of this AOR will be returned to customers in FY 1998 and the remainder in FY 1999, bringing the FY 1999 AOR to zero.

Workload:

		FY 1997	FY 1998	FY 1999
Direct Labor Hours		1,259,534	1,246,080	1,246,080

Direct Labor hours at FMSO reflect the hours worked against a customer's project. The increase in direct hours from FY 1997 to FY 1998 is due to the conversion of 1.9 workyears from overhead to direct billable effort.

Performance Indicators:

		FY 1997	FY 1998	FY 1999
Timeliness		95%	95%	95%
Customer Satisfaction		85%	85%	85%
Quantity		98%	98%	98%

Performance Indicator: These measures are negotiated with our customers during the Service Level Agreement process. Timeliness of 95% means that 95% of the time we deliver on or before the required customer due date. Quantity of 98% means that we delivered the product 98% of the time within the quarter of the fiscal year required. Customer satisfaction surveys are sent to the actual users of the systems and data is tallied.

Unit Costs:

		FY 1997	FY 1998	FY 1999
Direct Labor Hour		$49.44	$51.18	$52.28

Unit Cost is measuring total operating costs divided by direct billable labor hours. The unit cost increase between FY 1997 and FY 1998 and between FY 1998 and FY 1999 is attributed to application of approved labor pay raises and non labor inflation rates.

Stabilized Rate:

		FY 1997	FY 1998	FY 1999
Direct Labor Hour		$48.97	$52.29	$53.15
Percent Change in Composite Customer Rate		1.70%	6.78%	1.64%

Stabilized Rate: The changes between FYs 1997, 1998 and 1999 are due to approved pay raises and non labor price escalation rates, the cash surcharge assessment in FYs 1998 and 1999 and the application in FY 1998 of a favorable Prior Year AOR gain of $2.72M and in FY 1999 of the balance of the Prior Year AOR gain of $.17M. The increase in the customer rate is due to pricing changes, plus the effect of the cash surcharge assessment.

Staffing:		FY 1997	FY 1998	FY 1999
Civilian End Strength		863	873	873
Civilian Work Years		872	873	873
Military End Strength		18	19	19
Military Work Years		18	19	19

Staffing: Civilian and military end strength/workyears are level at 873 and 19, respectively, for FYs 1998-1999.

Headquarters Cost:

		FY 1997	FY 1998	FY 1999
Cost of Management Headquarters ($ Millions)		$0.180	$0.184	$0.188

Capital Budget Authority:

		FY 1997	FY 1998	FY 1999
ADP and Telecom (Millions)		$0.503	$0.500	$0.500
Software Development (Millions)		$0.000	$0.004	$0.002

Capital Budget Authority: The requested funding supports the following programs:

a. Local Area Network Upgrade

	FY 1997	FY 1998	FY 1999
	$.383	$.500	$.500

Purpose: To update/upgrade the hardware and software used at FMSO which will improve response time and reduce maintenance costs by using technology improvements.

b. Management Information Systems Rehost

	FY 1997	FY 1998	FY 1999
	$.120	$.0	$.0

Purpose: Move mainframe computer work to a lower cost client/server environment.

c. Cash Model License Purchases

	FY 1997	FY 1998	FY 1999
	$.0	$.004	$.002

Purpose: Purchase a license for the use of a centrally procured cash projection model for NWCF activities.

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
FMSO / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	78.2	68.0	70.8
Surcharges	.0	3.7	1.1
Depreciation excluding Major Constructio	.4	.5	.6
Other Income			
Total Income	78.5	72.2	72.5
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	1.4	1.6	1.6
Civilian Personnel	50.3	53.8	55.5
Travel and Transportation of Personnel	.3	.7	.7
Material & Supplies (Internal Operations	.6	.8	.7
Equipment	2.4	1.4	1.4
Other Purchases from NWCF	.8	.4	.4
Transportation of Things	.0	.1	.1
Depreciation - Capital	.4	.5	.6
Printing and Reproduction	.2	.2	.2
Advisory and Assistance Services	.0	.0	.0
Rent, Communication & Utilities	.4	.4	.4
Other Purchased Sevices	25.9	11.4	10.1
Total Expenses	82.7	71.2	71.6
Work in Process Adjustment	.0	.0	.0
Comp Work for Activity Reten Adjustment	.0	.0	.0
Cost of Goods Sold	82.7	71.2	71.6
Operating Result	-4.2	1.0	1.0
Less Surcharges	.0	-3.7	-1.1
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	.0	.0	.0
Net Operating Result	-4.2	-2.7	-.2
Other Changes Affecting AOR	.0	.0	.0
Accumulated Operating Result	2.9	.2	.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
FMSO / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	81.0	73.7	72.7
a. Orders from DoD Components	9.3	7.8	9.7
Department of the Navy	8.6	7.8	9.7
O & M, Navy	8.6	7.8	9.7
O & M, Marine Corps	.0	.0	.0
O & M, Navy Reserve	.0	.0	.0
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	.0	.0	.0
Weapons Procurement, Navy	.0	.0	.0
Ammunition Procurement, Navy/MC	.0	.0	.0
Shipbuilding & Conversion, Navy	.0	.0	.0
Other Procurement, Navy	.0	.0	.0
Procurement, Marine Corps	.0	.0	.0
Family Housing, Navy/MC	.0	.0	.0
Research, Dev., Test, & Eval., Navy	.0	.0	.0
Military Construction, Navy	.0	.0	.0
Other Navy Appropriations	.0	.0	.0
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	.0	.0	.0
Army Operation & Maintenence	.0	.0	.0
Army Res, Dev, Test, Eval	.0	.0	.0
Army Procurement	.0	.0	.0
Army Other	.0	.0	.0
Department of the Air Force	.7	.0	.0
Air Force Operation & Maintenence	.0	.0	.0
Air Force Res, Dev, Test, Eval	.0	.0	.0
Air Force Procurement	.0	.0	.0
Air Force Other	.7	.0	.0
DOD Appropriation Accounts	.0	.0	.0
Base Closure & Realignment	.0	.0	.0
Operation & Maintence Accounts	.0	.0	.0
Res, Dev, Test & Eval Accounts	.0	.0	.0
Procurement Accounts	.0	.0	.0
DOD Other	.0	.0	.0
b. Orders from NWCF Business Area	68.6	61.9	59.0
c. Total DoD	77.8	69.7	68.7
d. Other Orders	3.2	4.0	3.9
Other Federal Agencies	.0	.0	.0
Foreign Military Sales	3.2	4.0	3.9
Non Federal Agencies	.0	.0	.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
FMSO / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	17.5	20.0	21.5
3. Total Gross Orders	98.6	93.7	94.2
4. Funded Carry-Over **	20.0	21.5	21.6
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	78.5	72.2	72.5

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

CHANGES IN COST OF OPERATIONS
NAVY/INFORMATION SERVICES/FMSO
FEBRUARY 1998

(DOLLARS IN MILLIONS)

1.	FY 1997 Actuals	82.748
2.	FY 1998 estimate in President's Budget	71.138
3.	Pricing Adjustments	0.002
a.	General Inflation	-0.162
b.	Civil Service Retirement System (CSRS) Change	0.255
c.	Federal Employees Retirement System (FERS) Change	-0.091
4.	Program Change	
a.	Military Personnel	0.050
5.	FY 1998 Current Estimate	71.191
6.	Pricing Adjustments	1.767
a.	Annualization of Prior Year Pay Raises	0.312
b.	FY 1999 Pay Raise	1.293
	(1) Civilian Personnel	1.302
	(2) Military Personnel	-0.009
c.	General Purchases Inflation	0.238
d.	CSRS/FERS Change	-0.076
7.	Program Changes	-1.391
a.	Disability Compensation	0.039
b.	Travel	-0.002
c.	Material & Supplies	-0.134
d.	Financial Operations (DFAS)	-0.010
e.	Printing & Reproduction	0.001
f.	Communications	0.001
g.	Facility Maint	-0.001
h.	Other Contracts	-0.233
i.	Other costs	-1.140
j.	Depreciation	0.088
8.	FY 1999 Current Estimate	71.567

BUSINESS AREA CAPITAL INVESTMENT
NAVY/INFORMATION SERVICES/FMSO
FEBRUARY 1998
($ in Millions)

Line Number	Item Description	FY 97		FY 98		FY 99	
		Quantity	Total Cost	Quantity	Total Cost	Quantity	Total Cost
	Equipment						
	- Replacement						
	- Productivity						
	- New Mission						
	- Environmental						
	- Compliance						
	ADP & Telecom		0.503		0.500		0.500
	Software Development				0.004		0.002
	Minor Construction						
	TOTAL		$0.503		$0.504		$0.502

NAVY/INFORMATION SERVICES/FMSO
February 1998

($ in Thousands)							A. Budget Submission CONG		
B. Component/Business Area/Date Navy/Information Services/FMSO FEBRUARY 1997			C. Line No. & Item Description ADP & Telecom				D. Activity Identification		
	FY 97			FY 98			FY 99		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
1. LAN UPGRADE			$383			$500			$500
Superserver									
Office Automation Software	1	213	213						
Upgrade to Novel 4.01									
Install Bridge in 308	1	20	20						
Ethernet 16 port hubs	2	20	40						
Upgrade Repeaters	10	10	100						
Token Ring Cable	1	10	10						
2. MIS REHOST			$120			$0			$0
Oracle SQL NET	1	55	55						
Upgrade Support	1	5	5						
FTP PC/TCP OnNet Version	1	60	60						
OnNet Support & Maintenance									
TOTAL			$503			$500			$500

Narrative Justification:

1. UPGRADE LOCAL AREA NETWORK (LAN): The purpose of this initiative is to upgrade the hardware/software for the FMSO LAN to a basic configuration which should remain functional for the foreseeable future. This project is required to keep FMSO current with technology in order to efficiently operate.

2. MANAGEMENT INFORMATION SYSTEM/CLIENT SERVER: The purpose of this initiative is to move mainframe computer work to a client/server environment. This will allow us to start migrating our work from a mainframe development/maintenance environment to a less costly internal client server.

2/2/98
3:09 PM

NAVY/INFORMATION SERVICES/FMSO
February 1998

($ In Thousands)

A. Budget Submission
CONG

B. Component/Business Area/Date
Navy/Information Services/FMSO FEBRUARY 1997

C. Line No. & Item Description
SW Development

D. Activity Identification

	FY 97			FY 98			FY 99		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
1. CASH MODEL LICENSE						$4			$2
TOTAL			$0			$4			$2

1. CASH MODEL LICENSE PURCHASE: The purpose of this initiative is to purchase a site license for the use of a centrally procured cash projection model for NWCF activities.

CAPITAL BUDGET EXECUTION
NAVY/INFORMATION SERVICES/FMSO
February 1998
($ in Millions)

FY 1997

Title/Description	Original Request	Change	Revised Request	Explanation/Reason for Change
LAN UPGRADE	0.383	0.000	0.383	
MIS REHOST	0.120	0.000	0.120	
Total Capital Investment	0.503	0.000	0.503	

FY 1998

Title/Description	Original Request	Change	Revised Request	Explanation/Reason for Change
LAN UPGRADE	0.500	0.000	0.500	
CASH MODEL LICENSE	0.004	0.000	0.004	
Total Capital Investment	0.504	0.000	0.504	

FY 1999

Title/Description	Original Request	Change	Revised Request	Explanation/Reason for Change
LAN UPGRADE	0.500	0.000	0.500	
CASH MODEL LICENSE	0.002	0.000	0.002	
Total Capital Investment	0.502	0.000	0.502	

FY 1999 PRESIDENT'S BUDGET SUBMISSION
COMMANDER NAVAL RESERVE FORCE
NAVAL RESERVE INFORMATION SYSTEMS OFFICE
NAVY WORKING CAPITAL FUND
FEBRUARY 1998

Activity Group Composition:

NAVAL RESERVE INFORMATION SYSTEMS OFFICE-NWCF(NRISO-NWCF)
NEW ORLEANS, LA

Activity Group Functions:

The mission of the NRISO-NWCF is to provide regional communication and automated information systems (AIS) services to customers; to manage and direct remote facilities, as required; to provide local Information Services (IS) support in coordination with the regional center; and to design, develop and maintain standard Navy automated information systems. NRISO-NWCF is a Base Level Computing IS service center which provides IS support to a wide range of DOD customers.

Customer Base:

The NRISO major customers include:

-Office of Under Secretary of Defense

-United States Department of Agriculture

-Naval Air Systems Command

-Joint Logistics Systems Center (JLSC)

-USDA, Federal Crop Insurance Corporation (FCIC), and

-Defense Finance and Accounting Service (DFAS, Wash. D.C.)

FY 1999 PRESIDENT'S BUDGET SUBMISSION
COMMANDER NAVAL RESERVE FORCE
NAVAL RESERVE INFORMATION SYSTEMS OFFICE
NAVY WORKING CAPITAL FUND
FEBRUARY 1998

Workload:

	FY 1997	FY1998	FY1999
Labor Hours	100,537	110,320	113,960

The increases in billable labor hours between fiscal years are based on new requirements. The majority of the workload is related to a demonstration system as part of the Defense Integrated Military Human Resources System (DIMHRS) formerly Military Personnel Management of the 21st century (MPM-21) project. The project is funded by Office of Under Secretary of Defense (P&R). After completion of the prototype for this system, authorization will be given to begin the development of the objective system. The objective system will take five years to develop equating to an additional 7 workyears to complete the project

Performance Indicators:

The sub-activity group's successful performance is measured based on customer satisfaction with timeliness and quality of products and services delivered. This measure allows customers to quantify project requests based on necessary inputs, such as direct labor hours, and to track project cost. Regularly scheduled meetings with customers are held to discuss assessment of products and services rendered.

Staffing:

	FY 1997	FY1998	FY1999
Civilian End Strength	91	106	105
Civilian Workyears	89	99	102

Staffing has increase significantly from FY 1997 to FY 1998 because of the new requirement to develop an objective pay system (DIMHRS) for the Office of Under Secretary of Defense (P&R). This project is a joint effort with the Air Force and will take approximately five years to develop.

FY 1999 PRESIDENT'S BUDGET SUBMISSION
COMMANDER NAVAL RESERVE FORCE
NAVAL RESERVE INFORMATION SYSTEMS OFFICE
NAVY WORKING CAPITAL FUND
FEBRUARY 1998

Unit Cost:

	FY 1997	FY 1998	FY 1999
Direct Labor Hour	$ 43.80	$ 51.70	$ 52.70
Contractual Support	$5.6	$8.7	$9.1
Direct Customer Support	$3.1	$4.2	$3.8

The direct labor hour unit cost increases in the budget years as a result of increased inflation factors and approved pay raises. Also, increased direct hours beginning FY98 increased the hourly unit cost. The other outputs are based on various other units in support of the customer base and fluctuates slightly due to change in requirements.

Customer Rate Changes:

	FY 1997	FY1998	FY1999
Stabilized Rate	$ 43.34	$ 65.08	$ 49.29
Percentage Change in Customer Rate	-8.9%	50.2%	-24.3%

The FY 1998 rate reflects the required rate to achieve this sub-activity group's projected revenue and recover projected costs, as well as to recover the NRISO portion of the cash surcharge. FY 1999 rates include the return of accumulated profits to customers and a cash surcharge.

Financial Profile:

	(Millions $)		
	FY 1997	FY 1998	FY 1999
Revenue	12.4	19.6	15.9
Cost of Goods Sold	13.1	18.6	18.8
Cash Surcharge		.9	.4
Net Operating Results	(.7)	.9	(2.9)
Accumulated Operating Results	3.3	3.3	-0-

Increase in operating costs between FY97 and FY98 reflects the increase of workload of the DIMHRS project. The increase between FY 1998 and FY 1999 is primarily due to approved pay rate increases and general inflation rate changes. Reduced revenue from FY 1998 to FY 1999 reflects return of $3.8M in AOR profit to

customers through rates. The FY 1998 and FY 1999 NOR reflected above is prior to the adjustment to account for removal of the cash surcharge.

Capital Budget Authority:

	(Millions $)		
	FY 1997	FY 1998	FY 1999
Equipment-Non ADPE/Telecom	$0.000	$0.000	$0.000
ADPE/Telecom Equipment	$0.040	$0.000	$0.000
Software Development	$0.320	$0.004	$0.002
Minor Construction	$0.000	$0.000	$0.000
TOTAL	$0.360	$0.004	$0.002

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
NRISO / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	12.5	18.7	15.5
Surcharges	.0	.9	.4
Depreciation excluding Major Constructio	.0	.0	.0
Other Income			
Total Income	12.5	19.6	15.9
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	.0	.0	.0
Civilian Personnel	4.4	5.1	5.2
Travel and Transportation of Personnel	.2	.4	.4
Material & Supplies (Internal Operations	.1	.0	.0
Equipment	2.7	3.3	2.9
Other Purchases from NWCF	.2	.2	.2
Transportation of Things	.0	.0	.0
Depreciation - Capital	.0	.0	.0
Printing and Reproduction	.0	.0	.0
Advisory and Assistance Services	3.7	9.0	9.4
Rent, Communication & Utilities	.2	.2	.2
Other Purchased Sevices	1.7	.5	.5
Total Expenses	13.2	18.6	18.9
Work in Process Adjustment	-.1	.0	.0
Comp Work for Activity Reten Adjustment	.0	.0	.0
Cost of Goods Sold	13.1	18.6	18.9
Operating Result	-.7	1.0	-2.9
Less Surcharges	.0	-.9	-.4
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	.0	.0	.0
Net Operating Result	-.7	.0	-3.3
Other Changes Affecting AOR	4.0	.0	.0
Accumulated Operating Result	3.3	3.3	.0

Exhibit Fund-14

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NRISO / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	13.2	16.2	15.9
a. Orders from DoD Components	14.0	5.7	10.4
Department of the Navy	6.1	1.8	3.3
O & M, Navy	2.6	1.7	3.2
O & M, Marine Corps	.0	.0	.0
O & M, Navy Reserve	3.4	.1	.1
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	.0	.0	.0
Weapons Procurement, Navy	.0	.0	.0
Ammunition Procurement, Navy/MC	.0	.0	.0
Shipbuilding & Conversion, Navy	.0	.0	.0
Other Procurement, Navy	.0	.0	.0
Procurement, Marine Corps	.0	.0	.0
Family Housing, Navy/MC	.0	.0	.0
Research, Dev., Test, & Eval., Navy	.0	.0	.0
Military Construction, Navy	.0	.0	.0
Other Navy Appropriations	.0	.0	.0
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	.0	.0	.0
Army Operation & Maintenence	.0	.0	.0
Army Res, Dev, Test, Eval	.0	.0	.0
Army Procurement	.0	.0	.0
Army Other	.0	.0	.0
Department of the Air Force	.0	.0	.0
Air Force Operation & Maintenence	.0	.0	.0
Air Force Res, Dev, Test, Eval	.0	.0	.0
Air Force Procurement	.0	.0	.0
Air Force Other	.0	.0	.0
DOD Appropriation Accounts	7.9	3.9	7.1
Base Closure & Realignment	.0	.0	.0
Operation & Maintence Accounts	.0	.0	.0
Res, Dev, Test & Eval Accounts	.0	.0	.0
Procurement Accounts	.0	.0	.0
DOD Other	7.9	3.9	7.1
b. Orders from NWCF Business Area	-2.2	3.8	2.3
c. Total DoD	11.8	9.5	12.7
d. Other Orders	1.4	6.7	3.2
Other Federal Agencies	1.4	6.7	3.2
Foreign Military Sales	.0	.0	.0
Non Federal Agencies	.0	.0	.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NRISO / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	11.9	12.7	9.3
3. Total Gross Orders	25.1	28.9	25.2
4. Funded Carry-Over **	12.7	9.3	9.3
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	12.4	19.6	15.9

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

FY 1999 PRESIDENT'S BUDGET
Claimant: COMNAVRESFOR
Appropriation: NWCF
Activity Group: INFORMATION SERVICES
Sub-activity Group: NRISO
SUMMARY OF CHANGES IN COSTS

	(In Millions of Dollars)
1. FY1997 Actual Cost	13.1
2. FY1998 President's Budget	16.7
3. Adjustments to arrive at FY98 Current:	
a. DIMHRS Project	1.9
4. FY 1998 Current Estimate	18.6
5. Pricing Adjustments:	
a. Annualization of Prior Year Pay Raises/FY98 Pay Raise	0.1
6. Productivity Initiatives and Other Efficiencies:	
7. Program Changes:	
a. DIMHRS Project	0.1
8. FY 1999 Current Estimate	18.8

EXHIBIT: FUND 2

Claimant:
COMNAVRESFOR
Appropriation:
NWCF

Business Area Capital Budget Summary
Activity Group: Information Services
Sub-Activity Group: Naval Reserve Information Systems Office
Date: FEBRUARY 1998
($ in Millions)

Line Number	Item Description	FY 1997		FY 1998		FY 1999	
		Quantitiy	Total Cost	Quantity	Total Cost	Quantity	Total Cost
1	Equipment - Replacement - Productivity - New Mission	1	.040				
	Minor Construction						
2	Software Development		.320		.004		.002
	TOTAL		.360		.004		.002

EXHIBIT FUND - 9A

BUSINESS AREA CAPITAL INVESTMENT JUSTIFICATION ($ in Thousands)		A. Budget Submission FY 1999 President's Budget
B. Component/Business Area/Date Naval Reserve/Information Services/Feb 98	C. Line No. & Item Description 2 - Equipment -CMIS	D. Activity Identification N31020-NRISO-NWCF

	FY 96			FY 97			FY 98			FY 99		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment - CMIS	0	0	0	1	.040	.040						

The purchase of the Configuration Management Information System (CMIS) provides a number of benefits to the Material Management (MM) community. The overriding benefit is the capability of all personnel (engineers, manafacturers, contractors, logisticians, and procurement personnel) within the configuration management process to interact through a common database.

Benefits of the CMIS include:
- Develop a system to support DoD Configuration Management (CM).
- Provide an interface to the JEDMICS drawing repository for image retrieval.
- Provide the capability to create, distribute, review, and disposition electronic engineering change control data.
- Provide the procurement community information concerning pending configuration changes, so as to preclude the purchase of obsolete parts.
- Improve accuracy of the information maintained in the database by safeguarding access to the system.
- Provide visibility of configuration management data via extenseive progress and status reporting, as well as content of production baselines.
- Provide access to user-friendly, accurate configuration management product data via GUI interfaces and screens.

EXHIBIT FUND - 9B

BUSINESS AREA CAPITAL INVESTMENT JUSTIFICATION ($ in Thousands)		A. Budget Submission FY 1999 President's Budget
B. Component/Business Area/Date Naval Reserve/Information Services/Feb 98	C. Line No. & Item Description 2 - Software Development -DMARS	D. Activity Identification N31020 - NRISO-NWCF

	FY 96			FY 97			FY 98			FY 99		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Software Development - DMARS				1	.320	.320						

The DBOF Management and Reporting System (DMARS) will automate source data input, capture the data necessary to populate a Decision Support System (DSS) database and allow for transfer of source data to up line systems. It will feature a wide range of reporting capabilities in the areas of time and attendance, labor activity, funding document management, procurement management, travel management, training management, project management and direct cite funds management. Summary data will be displayed in summary reports with drill down capability to view detail data. Cross reference can be made in categories including Employee, Organization Code, Job Order Number, Labor Category, Project, Project Phase, and Task. DMARS will give upper management easy views of overhead and direct bill activities in tabular and graphic form for management, planning and budgeting activities. It will support project managers in reporting project activity to management and customers. There are currently no tools of this type designed to support the detailed reporting requirements of the Office of the Under secretary of Defense projects such as the Military Personnel Management System for the Twenty First Century (MPM-21). This level of reporting will probably become standard for large DoD Information System development projects. DMARS will provide statistical information to support analysis of the impacts of new methodologies and tools on organizational productivity and product quality.

The impact of not making the proposed capital investment will be to continue without adequate automated tools for decision support within the DBOF community. Management will have impaired ability to make insights into DBOF operations that could otherwise result in business efficiency improvements and attendant cost avoidances. Many processes will remain as labor-intensive manual functions. This results in higher costs and more opportunities for human error. Maintenance of local, unique applications will continue to cause duplication of functions at each activity. Second and third generation computer processes will still be employed which cannot provide the user-friendly, intuitive advantages of the modern graphical user interfaces employed in state-of-the-art application design. Remaining in these old environments drives up maintenance costs, training costs, error rates and restricts usability/access to information that we already possess.

EXHIBIT FUND - 9B

BUSINESS AREA CAPITAL INVESTMENT JUSTIFICATION
($ in Thousands)

A. Budget Submission
FY 1999 President's Budget

B. Component/Business Area/Date
Naval Reserve/Information Services/Feb 98

C. Line No. & Item Description
2 - Software Development -Cash Model

D. Activity Identification
N31020 - NRISO-NWCF

	FY 96			FY 97			FY 98			FY 99		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Software Development - Cash Model License Purchases								.004	.004		.002	.002

In order to improve NWCF cash projections, a cash projection model will be centrally procured for NWCF activities. Each NWCF activity must purchase a license for the use of this model.

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
INFORMATION SERVICES
NAVAL RESERVE INFORMATION SYSTEMS OFFICE
CAPITAL BUDGET EXECUTION
(Dollars in Millions)
FY 1997

Title/Description	Original Request	Change	Revised Request	Explanation/Reason for Change
Equipment (non-ADPE/TEL):	0.000	0.000	0.000	
Subtotal - Equipment	0.000	0.000	0.000	
ADPE and Telecomm Equip:	0.040	0.000	0.040	
Subtotal - ADPE/TEL Equip	0.040	0.000	0.040	
Software Development:	0.320	0.000	0.320	
Subtotal - Software Develop	0.320	0.000	0.320	
Minor Construction:	0.000	0.000	0.000	
Subtotal - Minor Construction	0.000	0.000	0.000	
TOTAL CAPITAL INVESTMENT	0.360	0.000	0.360	

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
INFORMATION SERVICES
NAVAL RESERVE INFORMATION SYSTEMS OFFICE
CAPITAL BUDGET EXECUTION
(Dollars in Millions)
FY 1998

Title/Description	Original Request	Change	Revised Request	Explanation/Reason for Change
Equipment (non-ADPE/TEL):	0.000	0.000	0.000	
Subtotal - Equipment	0.000	0.000	0.000	
ADPE and Telecomm Equip:	0.000	0.000	0.000	
Subtotal - ADPE/TEL Equip	0.000	0.000	0.000	
Software Development:	0.000	0.004	0.004	New requirement to assist in cash forecasting.
Subtotal - Software Develop	0.000	0.004	0.004	
Minor Construction:	0.000	0.000	0.000	
Subtotal - Minor Construction	0.000	0.000	0.000	
TOTAL CAPITAL INVESTMENT	0.000	0.004	0.004	

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
INFORMATION SERVICES
NAVAL RESERVE INFORMATION SYSTEMS OFFICE
CAPITAL BUDGET EXECUTION
(Dollars in Millions)
FY 1999

Title/Description	Original Request	Change	Revised Request	Explanation/Reason for Change
Equipment (non-ADPE/TEL):	0.000	0.000	0.000	
Subtotal - Equipment	0.000	0.000	0.000	
ADPE and Telecomm Equip:	0.000	0.000	0.000	
Subtotal - ADPE/TEL Equip	0.000	0.000	0.000	
Software Development:	0.000	0.002	0.002	New requirement to assist in cash forecasting.
Subtotal - Software Develop	0.000	0.002	0.002	
Minor Construction:	0.000	0.000	0.000	
Subtotal - Minor Construction	0.000	0.000	0.000	
TOTAL CAPITAL INVESTMENT	0.000	0.002	0.002	

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
BASE SUPPORT/NAVY PUBLIC WORKS CENTERS

ACTIVITY GROUP FUNCTION: The Navy Public Works Centers (PWCs) provide utilities services, facilities maintenance, family housing services, transportation support, engineering services and shore facilities planning support required by afloat and ashore operating forces and other activities.

PWCs have a unique Command and Control structure. They operate under the command of the regional naval base commander who serves as Immediate Superior in Command (ISIC), and also under the technical control of the Naval Facilities Engineering Command as major claimant.

The Public Works Centers are base support providers to military, federal, state and local activities located within ten regional areas serviced by the Public Works Centers and their detachments. Currently, Public Works Centers provide services to DoD, Navy, Army, Air Force, Marine Corps, Coast Guard, National Aeronautics and Space Administration, state, and other federal and nonfederal activities.

The mission of the PWCs is to provide customers with the best public works services to meet their diverse needs, thereby becoming the provider of choice.

ACTIVITY GROUP COMPOSITION:

ACTIVITY	LOCATION
PWC Great Lakes	Great Lakes, Illinois
PWC Guam	Agana, Guam, Marianas Islands
PWC Jacksonville	Jacksonville, Florida
PWC Norfolk	Norfolk, Virginia
PWC Pearl Harbor	Pearl Harbor, Hawaii
PWC Pensacola	Pensacola, Florida
PWC San Diego	San Diego, California
PWC Washington	Washington, D.C.
PWC Yokosuka	Yokosuka, Japan
PWC Detachment, Philadelphia	Philadelphia, Pennsylvania

* PWC San Francisco Bay closed 26 September 1997.

TABLE ONE - Financial Profile
($ in Millions)

	FY 1997	FY 1998	FY 1999
Revenue	2,016.4	1,829.2	1,712.8
Cost of Goods Sold	2,013.3	1,753.6	1,679.9
Net Operating Results*	3.2	75.6	32.9
Accum. Operating Results	27.6	-2.5	0.0

*NOR includes surcharge

Overall, costs declined because of DoD downsizing and Base Realignment and Closure actions as well as overhead and maintenance reductions made in accordance with the NAVFAC Improvement Plan. Additional measures implemented by the PWCs to lower costs include: (1) utility cost savings from rate negotiations, (2) incorporation of grounds maintenance contract process improvements identified in Navy Audit 032-97, and (3) savings from consolidation of the human resources function.

WORKLOAD CHANGES:

As a result of Base Realignment and Closure (BRAC) actions, PWC San Diego expanded its public works service areas to include Naval Weapon Station Concord, NAVCOMSTA Stockton and other activities located in the Bay Area that formerly utilized PWC San Francisco's Base Operating Services/Job Order Contract (BOS/JOC).

The PWC Detachment in Philadelphia transferred from PWC San Francisco Bay to PWC Norfolk during FY 1997. This transfer aligned Philadelphia with the East Coast PWCs administratively, operationally and with the attendant rate schedules.

Workload increased for PWC Jacksonville and PWC Detachment Philadelphia as a result of the transfer of base management functions from NWS Charleston and NWS Earle.

TABLE TWO - Workload

	MEASURE	FY 1997	FY 1998	FY 1999
UTILITIES				
ELECTRICITY	MWH	4,171,895	4,074,895	3,958,685
POTABLE WATER	KGAL	24,187,061	23,292,033	22,867,901
SALT WATER	KGAL	6,294,083	7,196,247	7,227,666
HEATING	MBTU	563,022	525,127	546,618
STEAM	MBTU	6,903,844	7,268,473	8,605,430
CLEAN STEAM	MBTU	2,423,526	2,045,256	0
SEWAGE	KGAL	13,563,983	13,778,754	13,760,674
NATURAL GAS	MBTU	1,687,658	1,545,589	1,814,018
COMPRESSED AIR	KCF	8,313,401	8,889,010	9,039,771

SANITATION SERVICES				
REFUSE COLLECTION	CUYD	3,823,782	3,569,448	3,825,521
PEST CONTROL	HOURS	77,101	81,998	82,824
HAZ WASTE I	GAL	1,153,322	708,015	711,144
HAZ WASTE II	LBS	11,785,480	15,583,439	13,090,936
ENVIRON ENG	HOURS	130,082	144,124	142,005
INDUST WASTE	KGAL	424,294	37,321	36,283
TRANSPORTATION SERVICES				
EQUIP RENTAL	HOURS	20,877,846	22,686,387	21,981,377
VEHICLE OPS	HOURS	511,222	986,299	941,499
VEHICLE MAINTENANCE	SRO	143,247	140,099	116,893
MAINTENANCE & REPAIR				
SPECIFICS	JOBS	8,704	10,557	7,949
MINORS	ITEMS	15,997	17,933	17,553
EMER/SERV	CHITS	503,334	356,405	392,123
RECURRING	ITEMS	209,207	214,866	216,893
DESIGN				
DESIGN MANAGEMENT	CWE	207,559,083	210,833,704	200,536,898
PWC DESIGN	CWE	147,289,966	137,630,694	141,641,044
PLANNING	HOURS	454,804	452,336	447,089
CONTRACTING				
FSC ADMIN	WIP	359,202,092	335,351,695	372,450,370
FSC INSPECTION	WIP	294,763,998	293,895,060	348,898,224
NON-MCON ADMIN	WIP	219,709,687	145,373,743	136,013,001
NON-MCON INSPECTION	WIP	182,434,093	115,652,639	117,709,411
SPEC DEVELOPMENT	WIP	1,581,784	15,183,407	15,545,002

SIGNIFICANT ISSUES AND DEVELOPMENTS

As a result of the transfer of Family Housing Management functions, workload traditionally performed by either the PWC in-house workforce or by contract is being moved to direct cite contracts and will now be accounted for outside the NWCF.

In addition to accepting base support functions at the Naval Inventory Control Point, Philadelphia, PA in FY 1997, PWC Detachment Philadelphia also assumed responsibility for base support functions for NWS Earle, NJ, in FY 1998.

PWC Guam experienced significant increases to their purchased utility rates. Purchased electricity costs rose more than 13% from the unit cost submitted in the President's Budget. Also, a purchased sewage rate increase of approximately 200% was requested by Guam Water Works and was expected to be approved. This increase will have a significant impact on FY 1997 NOR if made retroactively, as expected.

Significant customer maintenance reductions were observed in FY 1997 and are budgeted to continue through the budget years.

Due to the overall reduction in workload at many centers, appropriate Separation Incentive Payments (SIPS) and Voluntary Early Retirement Authority (VERA) were budgeted in each year. An additional $8.0 million in SIP/VERA cost were added to the cost approved in the FY 1998 President's Budget in an effort to match the PWC workforce with the reduced, projected workload.

UNIT COST - Higher maintenance investments were required following the consolidation efforts of the early 1990s, but maintenance and repair costs for the budget years have been reduced in line with other base support providers. The PWCs set productivity improvement goals concurrent with the establishment of the Navy Working Capital Fund through the FY 1999 budget cycle. In fact, the cumulative, PWC composite rate grows 1% less than cumulative general escalation. PWCs have surpassed this cumulative level of productivity through consolidation, process improvements, benchmarking, competitive practices and partnering efforts, ultimately avoiding $984 million in cost over the life of the Future Years Defense Plan (FYDP). These gains are reflected below in the customer rate changes:

TABLE THREE - Rate Changes

	FY 1997	FY 1998	FY 1999
Total Public Works Centers:			
Utilities and Sanitation	%	.3%	(1.4)%
Other services	%	(1.0)%	(9.3)%
Composite	%	1.0%	2.9%
East Coast and Great Lakes:			
Utilities and Sanitation	(2.0)%	(4.9)%	(12.6)%
Other services	2.5%	3.1%	3.2%
Composite	0.7%	0.4%	(2.1)%
West Coast and Pacific			
Utilities and Sanitation	2.2%	2.8%	(.6)%
Other services	4.3%	(1.0)%	2.4%
Composite	3.6%	0.4%	1.1%

PERFORMANCE INDICATORS:

EFFICIENCY - Key corporate performance measures for Navy Public Works Centers have been established. The overall goal of the PWC Corporate Steering Group (CSG) was to establish metrics that would measure products/services to gauge effectiveness, assist in the management of products/services, assure accountability, and assist in making sound budget decisions. In addition to the above, the considerations for indicator changes were that each must be meaningful to the majority of the reporting groups (e.g., PWCs, Naval Facilities Engineering Command, Assistant Secretary of the Navy (Financial Management and Comptroller), and the Office of the Secretary of Defense), controlled by the product/service manager, and already measured through the normal reporting process or could be measured without significant additional cost to prevent the establishment of a "measurement bureaucracy."

Although unit cost remains the primary efficiency measure, we also track the percentage of total cost that is outsourced, the greatest growth commodities, the commodities in decline, operating results when compared to budget, and maintenance and repair (MRP) expenses as a percentage of current PWC plant value. The MRP expense percentages are 2.83, 1.94, 1.84, 1.82, and 1.87 for FYs 1995 through 1999, respectively.

TABLE FOUR - Unit Cost

	UNIT OF MEASURE	FY 1997	FY 1998	FY 1999
Utilities				
Electricity	MWH	78.61	75.84	77.16
Potable water	KGAL	2.47	2.33	2.34
Salt water	KGAL	0.62	0.57	0.54
Heating	MBTU	9.33	11.56	10.81
Steam	MBTU	15.29	13.59	13.88
Clean Steam	MBTU	15.03	13.16	0.00
Sewage	KGAL	4.00	3.70	3.80
Natural Gas	MBTU	5.38	5.35	5.49
Compressed Air	KCF	1.09	1.02	0.95
Sanitation Services				
Refuse Coll	CUYD	5.20	5.56	5.09
Pest Control	HRS	38.32	37.76	39.59
Haz Waste I	GAL	2.54	5.15	4.51
Haz Waste II	HRS	1.01	0.74	0.82
Environ Eng	HRS	58.91	55.95	56.19
Indust Waste	KGAL	14.26	159.07	175.22
Transportation Services				
Equip rental	HRS	3.24	2.89	2.81
Vehicle Ops	HRS	66.43	40.07	40.60
Vehicle Maint	SRO	78.45	98.81	116.01

Maintenance & Repair				
Specifics	JOBS	52,494.54	29,422.37	34,193.99
Minors	ITEMS	7,082.39	5,031.81	4,914.33
Emer/Serv	CHITS	146.47	209.04	198.32
Recurring	ITEMS	1,364.81	1,254.74	1,238.80
Design				
Design Mgmt	CWE	0.04	0.04	0.04
PWC Design	CWE	0.07	0.07	0.07
Planning	HRS	52.80	55.98	49.20
Contracting				
FSC Admin	WIP	0.07	0.05	0.05
FSC Inspection	WIP	0.05	0.06	0.06
Non-MCON Admin	WIP	0.06	0.08	0.07
Non-MCON Insp	WIP	0.04	0.05	0.04
Spec Develop	WIP	0.07	0.04	0.04

CUSTOMER SATISFACTION - Customer satisfaction is clearly viewed as the most important PWC product/service indicator since cost, quality, quantity, and timeliness affect the outcome. An annual customer survey is given by each PWC. Using a five-point scale, PWC Business Area average indices are tracked. The customer satisfaction goal is to achieve a .1 improvement each year through FY 1999.

TABLE FIVE - Customer Satisfaction

	FY 1997	FY 1998	FY 1999
Overall Rating	3.5	4.0	4.1

QUALITY - Although customer satisfaction remains the best indicator of overall value which includes quality, other indicators have been established that have an immense impact on the productivity of our customer base:

Electricity outage -- percent of unplanned interruption hours to hours of service.

FY 1997	FY 1998	FY 1999
4.0%	4.0%	4.0%

Transportation available/utilization -- actual rental hours of equipment divided by total possible rental hours.

FY 1997	FY 1998	FY 1999
93%	95%	95%

Lost Time Accident Rate -- percentage of productive time lost due to on-the-job injuries/accidents.

	FY 1997	FY 1998	FY 1999
	3.17%	3.10%	3.05%

TIMELINESS - Timeliness indicators are most important in the area of maintenance of real property. During the PWC Corporate Steering Group meeting in June 1996, PWCs agreed to common definitions and performance targets for emergency work, service work, minor work and specific work.

-- Emergency work requires immediate action to accomplish any or all of the following purposes; prevent loss or damage to government property, restore essential services that have been disrupted, and eliminate hazards to personnel or equipment. The goal is to complete the work in less than 24 hours.

-- Service work requires minimal planning or processing and can be accomplished in a short time, but is not of an emergency nature. The goal is next day response and completion within 72 hours.

-- Minor work is larger than emergency/service, but does not exceed $25,000. The goal is response within 7 days and completion within 30 days.

-- Specific work are jobs that cost more than $25,000. The goal is response within 90 days and completion within 150 days.

Mechanisms for tracking job completion have been installed at each PWC. Performance targets are reported quarterly, beginning with the last quarter of FY 1996.

TABLE SIX - Response Timeliness
(HOURS)

	FY 1997	FY 1998	FY 1999
Emergency Work Response	8.9	8.9	8.9
Service Work Turnaround	141	140	140
Minor Work Turnaround	51	50	49
Specific Work Turnaround	198	195	190

CIVILIAN AND MILITARY MANPOWER - PWC civilian and military manpower continues to decline in response to BRAC action (minus 567 workyears from FY 1997 to 1998) and decreased maintenance and repair workload that requires approximately 400 fewer workyears across the PWCs in FY 1998 and 1999.

TABLE SEVEN - Manning

	FY 1997	FY 1998	FY 1999
Civilian End Strength	11,576	11,687	11,357
Civilian Work Years	12,521	11,796	11,402
Military End Strength	106	106	107
Military Work Years	111	106	107

TABLE EIGHT - Capital Budget Authority
($ in Millions)

	FY 1997	FY 1998	FY 1999
Equipment-Non ADPE/TELECOM	8.800	11.225	9.768
ADPE/TELECOM Equip.	.500	1.290	.981
Software Development	5.100	1.599	1.918
Minor Construction	3.800	3.974	3.610
Total	18.200	18.088	16.277

SUMMARY- In concert with assuming responsibility in FY 1998 for base operating support functions formerly provided by the Naval Ordnance Center (NOC), the PWCs have budgeted to return $6.4M to NOC in an AOR transfer related to the NOC overhead recovery component of the stabilized rates as set in the FY 1998 President's Budget.

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
PWC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	1,998.0	1,711.5	1,664.7
Surcharges	.0	99.2	30.4
Depreciation excluding Major Constructio	18.5	18.5	17.7
Other Income			
Total Income	2,016.4	1,829.2	1,712.8
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	7.5	7.7	8.0
Civilian Personnel	623.1	580.3	573.3
Travel and Transportation of Personnel	5.1	4.2	3.9
Material & Supplies (Internal Operations	157.8	152.2	142.8
Equipment	31.8	26.3	25.8
Other Purchases from NWCF	13.4	10.6	10.2
Transportation of Things	5.4	1.9	1.0
Depreciation - Capital	18.5	18.5	17.7
Printing and Reproduction	2.2	3.1	3.4
Advisory and Assistance Services	.9	1.1	2.9
Rent, Communication & Utilities	335.6	336.1	324.0
Other Purchased Sevices	811.9	608.4	566.4
Total Expenses	2,013.1	1,750.5	1,679.4
Work in Process Adjustment	.2	3.1	.5
Comp Work for Activity Reten Adjustment	.0	.0	.0
Cost of Goods Sold	2,013.3	1,753.6	1,679.9
Operating Result	3.2	75.6	32.9
Less Surcharges	.0	-99.2	-30.4
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	-2.0	.0	.0
Net Operating Result	1.2	-23.6	2.5
Other Changes Affecting AOR	.0	-6.5	.0
Accumulated Operating Result	27.6	-2.5	.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
PWC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	1,919.1	1,763.5	1,654.9
a. Orders from DoD Components	1,475.8	1,361.1	1,255.9
Department of the Navy	1,173.2	1,101.5	1,012.0
O & M, Navy	1,017.5	791.9	763.8
O & M, Marine Corps	22.5	19.9	19.7
O & M, Navy Reserve	8.8	7.8	7.3
O & M, Marine Corp Reserve	1.2	.7	.7
Aircraft Porcurement, Navy	.3	.1	.1
Weapons Procurement, Navy	.0	.0	.0
Ammunition Procurement, Navy/MC	.0	.0	.0
Shipbuilding & Conversion, Navy	.3	.6	.6
Other Procurement, Navy	1.5	.4	.4
Procurement, Marine Corps	.0	.0	.0
Family Housing, Navy/MC	111.7	270.8	210.0
Research, Dev., Test, & Eval., Navy	2.5	2.9	3.0
Military Construction, Navy	5.0	4.7	4.6
Other Navy Appropriations	1.7	1.5	1.6
Other Marine Corps Appropriations	.3	.1	.1
Department of the Army	29.0	35.4	35.3
Army Operation & Maintenence	17.4	12.4	12.3
Army Res, Dev, Test, Eval	.8	2.0	2.0
Army Procurement	.0	.0	.0
Army Other	10.8	21.0	21.0
Department of the Air Force	34.9	44.5	42.9
Air Force Operation & Maintenence	34.4	40.9	39.3
Air Force Res, Dev, Test, Eval	.3	.0	.0
Air Force Procurement	.0	.0	.0
Air Force Other	.2	3.6	3.6
DOD Appropriation Accounts	238.7	179.7	165.8
Base Closure & Realignment	50.1	12.0	6.1
Operation & Maintence Accounts	101.2	96.1	91.8
Res, Dev, Test & Eval Accounts	1.7	1.7	1.6
Procurement Accounts	2.8	2.7	.0
DOD Other	83.0	67.3	66.2
b. Orders from NWCF Business Area	392.2	359.0	357.2
c. Total DoD	1,868.0	1,720.0	1,613.2
d. Other Orders	51.0	43.5	41.8
Other Federal Agencies	13.8	10.5	10.6
Foreign Military Sales	.3	.8	.7
Non Federal Agencies	36.9	32.2	30.5

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
PWC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	761.0	663.6	597.9
3. Total Gross Orders	2,680.1	2,427.1	2,252.8
4. Funded Carry-Over **	663.6	597.9	540.1
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	2,016.5	1,829.2	1,712.8

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
BASE SUPPORT
NAVY PUBLIC WORKS CENTERS

CHANGES IN THE COSTS OF OPERATIONS
($ in Millions)

		Costs
1.	FY 1997 Actual	2,013.3
2.	FY 1998 Estimate in President's Budget:	1,765.4
3.	Estimated Impact in FY 1998 of Actual FY 1997 Experience:	
	Increased cost because of utility rate increases at PWC Guam	6.0
	Increased workload due to Naval Inventory Control Point at PWC Philadelphia	6.5
	Reduction due to implementation of grounds maintenance contracting process improvements identified in Navy Audit 032-97	(1.7)
	In-house workload transitioning to direct-cite contracts	(19.9)
4.	Pricing Adjustments:	
	General Purchases	(8.6)
5.	Program Changes:	
	Increase in VERA/SIP Payments due to reduced customer workload	8.0
	BRAC funded closure costs at San Francisco Bay area	6.4
	SIP contribution change	1.1
	Change in CSRS/FERS requirements	2.8
	Reduction in customer workload	(41.2)
	Naval Ordance Center (NOC) Base Management Transfer for NWS Earle and NWS Charleston	32.7
	Reduction due to change in funding process for Base Communications	(2.3)
	Transfer of previously unidentified housing management functions at PWC Pearl Harbor to COMNAVBASE	(1.6)
6.	FY 1998 Current Estimate:	1,753.6

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
BASE SUPPORT
NAVY PUBLIC WORKS CENTERS

CHANGES IN THE COSTS OF OPERATIONS
($ in Millions)

	Costs
6. FY 1998 Current Estimate:	1,753.6
7. Pricing Adjustments:	
Pay Raise:	
FY 1999 CIVPERS Pay Raise	6.9
Annualization of FY 1998 Pay Raise	5.1
Fuel	(2.5)
Material and Supplies	1.5
General Purchases	15.5
8. Productivity Initiatives and Other Efficiencies:	
Elimination of DPS-6000 computer	(5.8)
Reduction due to purchased electricity rate decrease	(4.9)
Reduction due to implementation of grounds maintenance contracting process improvements identified in Navy Audit 032-97	(2.7)
Savings from the Human Resource functions	(0.2)
9. Program Changes:	
Reduction due to decrease in number of planned VERA/SIPs actions	(2.7)
Completion of NWCF/COTS financial system implementation	0.2
Consolidation of Human Resource functions	(3.2)
Decreased workload due to Defense downsizing	(80.9)
10. FY 1999 Current Estimate:	1,679.9

Fund 9a

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
BASE OPERATIONS
(Dollars in Millions)
PWC TOTAL

LINE #	Item Description	FY 1997		FY 1998		FY 1999	
		Quantity	Total Cost	Quantity	Total Cost	Quantity	Total Cost
	1a. Equipment- Non ADPE(>$500K)						
	- Replacement						
L0001	8219 Crane Truck MTD 2-Eng Prt	1	0.804	1	0.886	1	0.930
L0002	8249 Crane Truck MTD HYD Ded 51 Ton & Up	3	2.096	4	2.697	2	1.606
L0003	8215 Crane Truck MTD 2-Eng Prt 41-50 Ton	1	0.503	0	0	0	0
L0004	8246 Crane Truck MTD HYD Ded 20-50 Ton	1	0.502	0	0	0	0
	- Productivity						
	- New Mission						
	- Environmental						
	Subtotal Equipment (>$500K)	6	3.905	5	3.583	3	2.536
	1b. Equipment-Non ADPE (<$500K)						
L0005	- Replacement	26	4.085	35	6.339	34	6.077
L0006	- Productivity	0	0.000	3	0.440	3	0.525
L0007	- New Mission	2	0.400	1	0.200	1	0.300
L0008	- Environmental	2	0.410	2	0.663	2	0.330
	Subtotal Equipment (<$500K)	30	4.895	41	7.642	40	7.232
L0009	2. Minor Construction (>$100K<$500K)	14	3.800	19	3.974	18	3.610
L0010	3. ADPE & Telecomm (>$100K)	2	0.500	7	1.290	5	0.981
L0011	4. Software Development	11	5.100	4	1.599	5	1.918
	TOTAL	63	18.200	76	18.088	71	16.277

Fund 9b

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
($ in Thousands)
PWC TOTAL

A. FY 1999 CONGRESSIONAL BUDGET

B. Department of the Navy/Base Support

C. L0001 Equipment- Replacement >$500,000

D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment-Replacement	1	804.00	804	1	886.00	886	1	930.00	930
TOTAL	1	804.00	804	1	886.00	886	1	930.00	930

Narrative Justification:

THESE EQUIPMENT PURCHASES WILL REPLACE EQUIPMENT THAT IS OVERAGED OR BEYOND ECONOMICAL REPAIR. THIS WILL REDUCE WORKLOAD DELAYS AND EQUIPMENT DOWNTIMES. REPLACEMENT WILL PROVIDE SAFER, MORE EFFICIENT WORK USE, BETTER RESPONSE TIME AND LESS MAINTENANCE COSTS WHICH WILL RESULT IN BETTER CUSTOMER SERVICE AND SATISFACTION.

INCREASED DEMANDS ON PWC CRANE EQUIPMENT IS CAUSING ACCELERATED DETERIORATION AND COSTLY MAINTENANCE AND REPAIR.
IF PROPOSED CAPITAL EQUIPMENT PURCHASES ARE NOT AUTHORIZED, DELAYED RESPONSE TIME WILL CONTINUE DUE TO BACKLOG AND DELAYS FOR REPAIRS OF EQUIPMENT, RESULTING IN HIGHER UNIT COSTS TO THE CUSTOMER.

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
($ in Thousands)
PWC TOTAL

A. FY 1999 CONGRESSIONAL BUDGET

B. Department of the Navy/Base Support

C. L0002 Equipment- Replacement >$500,000

D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment-Replacement	3	698.67	2,096	4	674.25	2,697	2	803.00	1,606
TOTAL	3	698.67	2,096	4	674	2,697	2	803.00	1,606

Narrative Justification:

THESE EQUIPMENT PURCHASES WILL REPLACE EQUIPMENT THAT IS OVERAGED OR BEYOND ECONOMICAL REPAIR. THIS WILL REDUCE WORKLOAD DELAYS AND EQUIPMENT DOWNTIMES. REPLACEMENT WILL PROVIDE SAFER, MORE EFFICIENT WORK USE, BETTER RESPONSE TIME AND LESS MAINTENANCE COSTS WHICH WILL RESULT IN BETTER CUSTOMER SERVICE AND SATISFACTION. ALSO AT PWC PEARL HARBOR, THIS EQUIPMENT WILL BE ABLE TO PROVIDE CRANE SERVICE FOR HIGHER CAPACITY LIFTS ELIMINATING THE ADDITIONAL COSTS TO THE CUSTOMER.

INCREASED DEMANDS ON PWC CRANE EQUIPMENT IS CAUSING ACCELERATED DETERIORATION AND COSTLY MAINTENANCE AND REPAIR.
IF PROPOSED CAPITAL EQUIPMENT PURCHASES ARE NOT AUTHORIZED, DELAYED RESPONSE TIME WILL CONTINUE DUE TO BACKLOG AND DELAYS FOR REPAIRS OF EQUIPMENT, RESULTING IN HIGHER UNIT COSTS TO THE CUSTOMER.

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
($ in Thousands)
PWC TOTAL

A. FY 1999 CONGRESSIONAL BUDGET

B. Department of the Navy/Base Support

C. L0003 Equipment- Replacement >$500,000

D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment-Replacement	1	503.00	503	0	0.00	0	0	0.00	0
TOTAL	1	503.00	503	0	0.00	0	0	0.00	0

Narrative Justification:

THIS EQUIPMENT PURCHASE WILL REPLACE EQUIPMENT THAT IS OVERAGED OR BEYOND ECONOMICAL REPAIR. THIS WILL REDUCE WORKLOAD DELAYS AND EQUIPMENT DOWNTIMES. REPLACEMENT WILL PROVIDE SAFER, MORE EFFICIENT WORK USE, BETTER RESPONSE TIME AND LESS MAINTENANCE COSTS WHICH WILL RESULT IN BETTER CUSTOMER SERVICE AND SATISFACTION.

INCREASED DEMANDS ON PWC CRANE EQUIPMENT IS CAUSING ACCELERATED DETERIORATION AND COSTLY MAINTENANCE AND REPAIR.
IF PROPOSED CAPITAL EQUIPMENT PURCHASES ARE NOT AUTHORIZED, DELAYED RESPONSE TIME WILL CONTINUE DUE TO BACKLOG AND DELAYS FOR REPAIRS OF EQUIPMENT, RESULTING IN HIGHER UNIT COSTS TO THE CUSTOMER.

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
($ in Thousands)
PWC TOTAL

A. FY 1999 CONGRESSIONAL BUDGET

B. Department of the Navy/Base Support

C. L0004 Equipment- Replacement >$500,000

D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment-Replacement	1	502.00	502	0	0.00	0	0	0.00	0
TOTAL	1	502.00	502	0	0.00	0	0	0.00	0

Narrative Justification:

THIS EQUIPMENT PURCHASE WILL REPLACE EQUIPMENT THAT IS OVERAGED OR BEYOND ECONOMICAL REPAIR. THIS WILL REDUCE WORKLOAD DELAYS AND EQUIPMENT DOWNTIMES. REPLACEMENT WILL PROVIDE SAFER, MORE EFFICIENT WORK USE, BETTER RESPONSE TIME AND LESS MAINTENANCE COSTS WHICH WILL RESULT IN BETTER CUSTOMER SERVICE AND SATISFACTION.

INCREASED DEMANDS ON PWC CRANE EQUIPMENT IS CAUSING ACCELERATED DETERIORATION AND COSTLY MAINTENANCE AND REPAIR.
IF PROPOSED CAPITAL EQUIPMENT PURCHASES ARE NOT AUTHORIZED, DELAYED RESPONSE TIME WILL CONTINUE DUE TO BACKLOG AND DELAYS FOR REPAIRS OF EQUIPMENT, RESULTING IN HIGHER UNIT COSTS TO THE CUSTOMER.

Fund 9b

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
($ in Thousands)
PWC TOTAL

A. FY 1999 CONGRESSIONAL BUDGET

B. Department of the Navy/Base Support

C. L0005 Equipment- Replacement <$500,000

D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment-Replacement	26	157.12	4,085	35	181.11	6,339	34	178.74	6,077
TOTAL	26	157.12	4,085	35	181.11	6,339	34	178.74	6,077

Narrative Justification:

ITEMS BUDGETED REPRESENT CIVIL ENGINEERING SUPPORT EQUIPMENT (CESE) AND INDUSTRIAL PLANT EQUIPMENT. CESE INCLUDES TRUCKS, TRAILERS, TANKERS, SNOW PLOWS, CRANE TRUCKS AND OTHER VEHICLES INCIDENT TO PUBLIC WORKS TRANSPORTATION FUNCTIONS. INDUSTRIAL PLANT EQUIPMENT INCLUDES PORTABLE GENERATOR SUBSTATIONS, POWER BRAKE MACHINES, ROTARY DRUM VACUUM, SOLID WASTE SEPARATORS AND PROCESSING EQUIPMENT, AND OTHER EQUIPMENT INCIDENTAL TO PUBLIC WORKS FUNCTIONS.

PWC CESE AND INDUSTRIAL PLANT EQUIPMENT SUPPORTS CUSTOMER MAINTENANCE, REPAIR, CONSTRUCTION, UTILITIES, AND TRANSPORTATION REQUIREMENTS. EQUIPMENT PURCHASES AS BUDGETED WILL REPLACE OVERAGED AS WELL AS EQUIPMENT BEYOND ECONOMICAL REPAIR. THIS WILL REDUCE WORKLOAD DELAYS AND EQUIPMENT DOWNTIMES. REPLACEMENTS WILL PROVIDE FOR STABLE EQUIPMENT MAINTENANCE COSTS AND AVOID DOWNTIMES, AND MAKE SURE EPA GUIDELINES ARE MET WHICH ARE DIRECTLY RELATED TO UNIT COSTS AND CUSTOMER SATISFACTION.

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
($ in Thousands)
PWC TOTAL

A. FY 1999 CONGRESSIONAL BUDGET

B. Department of the Navy/Base Support

C. L0006 Equipment- Productivity <$500,000

D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment-Replacement	0	0.00	0	3	146.67	440	3	175.00	525
TOTAL	0	0.00	0	3	146.67	440	3	175.00	525

Narrative Justification:

EQUIPMENT PURCHASES AT PWC PEARL HARBOR WILL: (1) IMPROVE TURN-AROUND TIME TO THE CUSTOMER; AND (2) ENSURE EPA GUIDELINES ARE MET. IF THE PROPOSED EQUIPMENT PLAN IS NOT APPROVED, MAINTENANCE COSTS WILL INCREASE, AND CONTINUING EFFORTS TO PROVIDE CUSTOMERS WITH FAST, EFFICIENT AND RELIABLE SERVICE WILL BE DIMINISHED.

Fund 9b

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
($ in Thousands)
PWC TOTAL

A. FY 1999 CONGRESSIONAL BUDGET

B. Department of the Navy/Base Support

C. L0007 Equipment- New Mission <$500,000

D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment-Replacement	2	200.00	400	1	200.00	200	1	300.00	300
TOTAL	2	200.00	400	1	200.00	200	1	300.00	300

Narrative Justification:

EQUIPMENT PROPOSED WILL BENEFIT IMPROVED MAINTENANCE COSTS, REDUCE DOWNTIME, IMPROVE RELIABILITY, IMPROVE RESPONSIVENESS AND CUSTOMER SATISFACTION. PWC YOKOSUKA UTILIZED PRE-INVESTMENT ANALYSIS ON ALL EQUIPMENT REQUIREMENTS AS PART OF THEIR ANNUAL BUDGET PROCESS BASED ON MISSION NEEDS, RESPONSE AND AFFORDABILITY. WITHOUT THE ABILITY, INCREMENTAL IMPROVEMENT IN SERVICE WILL NOT BE ACHIEVABLE IN SUPPORT OF PWC SITE LEVEL BUSINESS PLANS.

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
($ in Thousands)
PWC TOTAL

A. FY 1999 CONGRESSIONAL BUDGET

B. Department of the Navy/Base Support

C. L0008 Equipment- Environmental <$500,000

D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment-Environmental	2	205.00	410	2	331.50	663	2	165.00	330
TOTAL	2	205.00	410	2	331.50	663	2	165.00	330

Narrative Justification:

ITEMS BUDGETED REPRESENT PWC OPERATIONAL AS WELL AS ENVIRONMENTAL LAB EQUIPMENT FOR EVALUATION AND TESTING AND PWC OPERATIONAL REQUIREMENTS IN COMPLIANCE WITH STATE, LOCAL, AND FEDERAL ENVIRONMENTAL STANDARDS. EQUIPMENT INCLUDES AUTOMATED SAMPLE EXTRACTORS, ODOR CONTROL DEVICES, SUPERCRITICAL FLUID EXTRACTORS, AUTOMATED ABSORPTION SPECTROPHOTOMETERS, AND OTHER EQUIPMENT INCIDENTAL TO MEETING ENVIRONMENTAL STANDARDS.

DUE TO CHANGES IN THE STATE OF ILLINOIS EPA EMISSIONS TESTS, PWC GREAT LAKES WILL PURCHASE NEW EMISSIONS TEST EQUIPMENT TO MAINTAIN CERTIFICATION TO TEST THEIR VEHICLES. IF NOT APPROVES, IT COULD COST APPROXIMATELY $25 MORE PER VEHICLE NOT INCLUDING THE PWC LABOR COSTS TO TAKE THE VEHICLE TO AND FROM THE SITE AND WAIT FOR PROCESSING.

CURRENT EQUIPMENT AT PWC NORFOLK DOES NOT ALLOW FOR THE VOLUME AND DIVERSITY OF TESTS REQUIRED TO MEET THE VIRGINIA POLLUTANT DISCHARGE AND ELIMINATION SYSTEM (VPDES) STANDARDS. MANY OF THE TESTS ARE NOT AVAILABLE LOCALLY AND MUST BE AIR EXPRESSED TO A CONTRACTOR CAPABLE OF PERFORMING THE TESTS. FAILURE TO COMPLETE THE TESTS IN A TIMELY MANNER CAN RESULT IN VIOLATIONS. FINES CAN AVERAGE $10,000 PER DAY/PER VIOLATION.

PWC PROCUREMENT OBJECTIVES HAVE BEEN ESTABLISHED TO REPLACE EQUIPMENT AND STAY WITHIN ENVIRONMENTAL STANDARDS. DELAYS AND OR REDUCTIONS IN THE PWC BUDGET REQUEST WILL RESULT IN LOST IMPROVEMENT IN OPERATION CAPABILITIES AND NOTICES OF VIOLATION WHICH WILL RESULT IN HIGHER UNIT COSTS TO THE NAVY.

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
($ in Thousands)
PWC TOTAL

A. FY 1999 CONGRESSIONAL BUDGET

B. Department of the Navy/Base Support

C. L0009 Minor Construction

D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Minor Construction	14	271.43	3,800	19	209.16	3,974	18	200.56	3,610
TOTAL	14	271.43	3,800	19	209.16	3,974	18	200.56	3,610

Narrative Justification:

ITEMS BUDGETED FOR MINOR CONSTRUCTION INCLUDE MISSION FACILITIES AND ENVIRONMENTAL PROJECTS TO CONSTRUCT SHELTERS FOR HAZARDOUS WASTE, IMPROVE ELECTRICAL SERVICE, ENCLOSE AND CONSTRUCT SHELTERS FOR UTILITY EQUIPMENT AND DISTRIBUTION SUBSTATIONS, PAVING, FUEL STORAGE, INSTALL STREET LIGHTS, AND OTHER FACILITIES IN SUPPORT OF PWC PRODUCTS AND SERVICES.

CONSTRUCTION PROJECTS AS BUDGETED PROVIDE ENHANCED PWC SHOP AND OPERATIONAL FACILITIES WHICH INCLUDE SAFETY, SECURITY, AND ENVIRONMENTAL COMPLIANCE REQUIREMENTS. THESE PROJECTS WILL REDUCE OPERATIONAL HAZARDS, STABILIZE MAINTENANCE COSTS AND MEET ENVIRONMENTAL STANDARDS WHICH ARE DIRECTLY RELATED TO UNIT COSTS.

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
($ in Thousands)
PWC TOTAL

A. FY 1999 CONGRESSIONAL BUDGET

B. Department of the Navy/Base Support

C. L0010 ADPE & Telecomm - Computer Hardware

D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
ADPE & Telecomm-Hardwar	2	250.00	500	7	184.29	1,290	5	196.20	981
TOTAL	2	250.00	500	7	184.29	1,290	5	196.20	981

Narrative Justification:

ITEMS BUDGETED FOR ADPE EQUIPMENT REPRESENT OPTICAL FILING SYSTEMS, LSN/WAN HARDWARE, FIBER OPTIC EQUIPMENT, COMPUTER AIDED DESIGN (CAD) HARDWARE, SERVERS AND OTHER HARDWARE AND OPERATIONAL SYSTEM SOFTWARE IN SUPPORT OF THE PWC MANAGEMENT INFORMATION SYSTEM (PWCMIS).

INFORMATION MANAGEMENT EQUIPMENT SUPPORTS PWCMIS SYSTEM REQUIREMENTS AS PROJECTED UNDER THE LATEST IMPLEMENTATION PLANS FOR A NEW PWC PRODUCTION AND MANAGEMENT SYSTEM ASSOCIATED WITH THE COTS IMPLEMENTATION. THE SYSTEM CONSISTS OF APPLICATIONS DESIGNED TO FULFILL THE MANAGEMENT REQUIREMENTS OF COMMERCIAL ACCOUNTING, BUDGET, AND COST; PRODUCTION MANAGEMENT, WHICH INCLUDES CONTROLS FOR THE PRODUCTION WORK FORCE; AND ALL CATEGORIES OF WORK FROM RECEIPT TO COMPLETION IN THE PLANNING, MAINTENANCE, UTILITIES AND TRANSPORTATION DEPARTMENTS. EQUIPMENT PURCHASES IN SUPPORT OF PWCMIS WILL REPLACE OVERAGED AND OBSOLETE EQUIPMENT WHICH IS INCOMPATIBLE WITH COTS IMPLEMENTATION.

PWCS HAVE INCREASED DEMANDS ON EXISTING PWCMIS SYSTEM HARDWARE IN BOTH QUANTITY AND COMPATIBILITY. AS SUCH, PROCUREMENT OBJECTIVES HAVE BEEN ESTABLISHED TO REPLACE EQUIPMENT WITHIN GUIDANCE. DEFERRALS AND OR REDUCTIONS IN REQUESTED AUTHORIZATIONS WILL DELAY BUDGETED SAVINGS FROM THE IMPLEMENTATION OF THE REVISED PWCMIS SYSTEM.

Fund 9b

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVY PUBLIC WORKS CENTERS
($ in Thousands)
PWC TOTAL

A. FY 1999 CONGRESSIONAL BUDGET

B. Department of the Navy/Base Support | C. L0011 Software Development | D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
ADPE & Telecomm-Softwar	11	463.64	5,100	4	399.75	1,599	5	383.60	1,918
TOTAL	11	463.64	5,100	4	399.75	1,599	5	383.60	1,918

Narrative Justification:

INFORMATION MANAGEMENT SOFTWARE SUPPORTS PWCMIS SYSTEM REQUIREMENTS AS PROJECTED UNDER THE LATEST IMPLEMENTATION PLANS FOR A NEW PWC PRODUCTION AND MANAGEMENT SYSTEM ASSOCIATED WITH COTS IMPLEMENTATION. THE SYSTEM CONSISTS OF APPLICATIONS DESIGNED TO FULFILL THE MATERIALS MANAGEMENT REQUIREMENTS. SOFTWARE PURCHASES IN SUPPORT OF PWCMIS WILL REPLACE OVERAGED AND OBSOLETE SOFTWARE PROGRAMS CURRENTLY RUNNING OF THE PWC'S DPS 6000.

SOFTWARE PURCHASES WILL UPGRADE/MODERNIZE THE PWCS INFORMATION TECHNOLOGY, VASTLY INCREASE PRODUCTIVITY, EFFICIENCY, ACCURACY, TIMELINESS, AND QUALITY OF SERVICES PROVIDED TO CUSTOMERS. IF THE PROPOSED SOFTWARE IS NOT APPROVED, EFFORTS TO DELIVER RELIABLE AND TIMELY SERVICE TO CUSTOMERS WILL BE DIMINISHED.

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
BASE SUPPORT
NAVY PUBLIC WORKS CENTERS
FY 1998 BUDGET ESTIMATE

PROJECTS ON THE FY 1999 PRESIDENT'S BUDGET
(Dollars in Millions)

FY 1998 Approved Project		REPROGS	APPROVED PROJ COST	CURRENT PROJ COST	ASSET/ DEFICIENCY
Equipment except ADPE and TELCOM	10.429	0.000	10.429	11.225	(0.796)
Equipment - ADPE and TELCOM	0.800	0.000	0.800	1.290	(0.490)
Software Development	5.250	0.000	5.250	1.599	3.651
Minor Construction	3.013	0.000	3.013	3.974	(0.961)
TOTAL FY 1998	19.492	0.000	19.492	18.088	1.404

Equipment	**Quantity**	**Value**	
Automated Sample Extraction	1	119	Deferred from FY 1997 due to MAXIMO
CNC Mill	1	118	Deferred from FY 1997 due to MAXIMO
Crane Truck Mtd Hyd Ded 20-50 Ton	2	379	Deferred from FY 1997 due to MAXIMO
Truck Mat Hndlg Hoist/Haul to 45 CU YD	2	274	Deferred from FY 1997 due to MAXIMO
Supercritical Fluid Extractor	1	100	Deferred from FY 1997 due to MAXIMO
Crane Truck MTD HYD Ded 51 Ton & Up	1	453	Moved up due to customer requirements
Crane Wheel Mounted Swing Cab 4X4 15 Ton & Up	(1)	(404)	Summer Adjustment
Truck Tank AVG/Jet Fuel 5000 Gal & Up	(1)	(123)	Summer Adjustment
Winrow Turner	(1)	(120)	Summer Adjustment
Sub-Total	**5**	**796**	

ADPE and TELCOM	**Quantity**	**Value**	
Comnet Ethernet Upgrade	1	300	Upgrade for COTS and future requirements
Mobile Dispatch	1	200	Maintenance management system compatible with COTS
Network Upgrade		(10)	Price decrease
Fiber Optic Install Bldg 11 to Sub-Station M-8	1	122	Upgrade for COTS and future requirements
Fiber Optic Install Bldg 11 to Sub-Station M-8	(1)	(122)	Summer Adjustment
Sub-Total	**2**	**490**	

Software Development	Quantity	Value	
PWC Production & Management Information System Software	1	(5,250)	Moved to FY 1997 to coincide with COTS purchase
MAXIMO (COTS) Phase II	1	603	Legacy maint system fpr COTS
Windows N/T Upgrade	1	290	Upgrade for COTS and future requirements
Data Warehouse	1	400	Management sys to consolidate financial data
PD2	1	350	Implementation of a COTS procurement management sys
Bar Coding & File Server enhancements	1	320	Integrate maint manage sys to eliminate fragmentation
Cash Model		36	Summer Adjustment
Data Warehouse	(1)	(400)	Summer Adjustment
Sub-Total	**5**	**(3,651)**	

Minor Construction	Quantity	Value	
Install Generator & Pumping Station @ Harmon	1	233	Deferred from FY 1997 due to MAXIMO
Pave Code 900 Compound	1	168	Deferred from FY 1997 due to MAXIMO
Const Covered Storage Facility, 1822	1	168	Deferred from FY 1997 due to MAXIMO
Construct Storage Radio Trunking Sys, SCI	1	450	Continuous radio coverage at San Clemente (safety)
Construct elevator in Building W-166	1	213	Compliance with handicap regulations.
Expand Tool Room X-17	(1)	(150)	Summer Adjustment
Install Water Master Meters, C-600	(1)	(121)	Summer Adjustment
Sub-Total	**3**	**961**	

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
BASE SUPPORT
NAVY PUBLIC WORKS CENTERS
FY 1999 BUDGET ESTIMATE

PROJECTS ON THE FY 1999 PRESIDENT'S BUDGET
(Dollars in Millions)

Approved Project		REPROGS	APPROVED PROJ COST	CURRENT PROJ COST	ASSET/ DEFICIENCY
FY 1999					
Equipment except ADPE and TELCOM	12.497	0.000	12.497	9.768	2.729
Equipment - ADPE and TELCOM	0.730	0.000	0.730	0.981	(0.251)
Software Development	0.000	0.000	0.000	1.918	(1.918)
Minor Construction	4.500	0.000	4.500	3.610	0.890
TOTAL FY 1999	17.727	0.000	17.727	16.277	1.450

535

Equipment	**Quantity**	**Value**	
High Performance Liquid Chromatograph	1	150	High priority for industrial waste treatment control
Mixer	1	127	Meet Federally Mandated reduction in solid waste disposal
Gas Chromatograph/Mass spectrometer		50	Price Growth
Crane Truck MTD 2-ENG PRT 41-50 Ton	2	(640)	Delayed due to higher priority
Crane Truck MTD 2-ENG PRT	1	(975)	Delayed due to higher priority
Crane Truck MTD HYD DED 20-50 Ton	1	(263)	Delayed due to higher priority
Crane Truck MTD HYD DED 51 Ton & Up	1	(682)	Delayed due to higher priority
Truck Maintenance Pole & Line Ded		(6)	Price decrease
Platform Maintenance		(6)	Price decrease
Tractor Crawler Ded 195 HP		(27)	Price decrease
Truck Reel Handling/Tensioning Powered	(1)	(123)	Summer Adjustment
Grader Road Motorized	(1)	(103)	Summer Adjustment
Crane Wheel Mounted Swing Cab 4X4 15 ton & Up	(1)	(231)	Summer Adjustment
Sub-Total	**4**	**(2,729)**	

ADPE and TELCOM	Quantity	Value	
Site Infrastructure Upgrade	1	248	Upgrade for COTS and future requirements
Video Teleconference	1	300	Provides real-time mgmt decisions/exchange of info with cust
Fiber Optic Inst Fm Sub-Station M-8 to Sub-Station A-450	1	128	Upgrade for COTS and future requirements
ATM Infrastructure Upgrade		(5)	Price Decrease
CAFM/GIS Expansion	1	(120)	Moved to FY 1998 due to high priority of COTS
Video Teleconference	(1)	(300)	Summer Adjustment
Sub-Total	**3**	**251**	

Software Development	Quantity	Value	
Data Warehouse - Phase II	1	500	Management sys to consolidate financial data
Imaging System	1	500	Management database sys for contracts & financial documents
Defense Messaging System	1	200	Compatibility with DoD standard electronic messaging sys
NFTS (Replacements) COTS	1	150	Replace legacy transportation system with COTS
PWC Production & Management Info Sys Software	1	550	Delayed to coincide with DFAS COTS
Cash Model		18	Summer Adjustment
Sub-Total	**5**	**1,918**	

Minor Construction	Quantity	Value	
Construct Port Generator shed, OPP	1	179	Protect/provide emergency power supply for critical faciliti
Construct Portable Generator shed, OPP, C-600	(1)	(179)	Summer Adjustment
Pave Parking Area, B372	(1)	(232)	Summer Adjustment
Parking Lot Expansion, A-81	(1)	(100)	Summer Adjustment
Renovate Building 782 control Room	(1)	(200)	Summer Adjustment
Sub-Total	**(3)**	**(532)**	

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
BASE SUPPORT BUSINESS AREA
NAVAL FACILITIES ENGINEERING SERVICE CENTER

ACTIVITY DESCRIPTION - The Naval Facilities Engineering Service Center (NFESC) is the Navy's resource for specialized facilities engineering and technology. In partnership with it's customers, NFESC delivers quality analysis, troubleshooting and technical support for DoD shore, ocean, and waterfront facilities; environmental, amphibious and expeditionary operations; as well as energy and utility services. As a member of the Naval Facilities Engineering Command(NAVFAC) team, the NFESC provides worldwide support to NAVFAC's headquarters, Public Work Centers, the fleet and shore activities of the Marine Corps, SYSCOMS, SECNAV/CNO special projects and other DOD agencies. The NFESC provides solutions to problems through engineering, design, construction, consultation, test and evaluation, technology implementation, and management support. The NFESC leverages technology to enhance the effectiveness and efficiency of it's customers, using existing technology where it can and identifying and adapting breakthrough technology when appropriate.

The NFESC fosters a cooperative, mutually supportive and valued relationships with it's customers and suppliers, proactively anticipating and understanding their needs and then exceeding their expectations. The NFESC is responsive, cost effective, competitive and fiscally viable.

In recognition of the characteristics of its current primary functions, the NFESC was transferred from the Research and Development activity group to the Base Support activity group. The NFESC has also completed the physical move of it's Port Hueneme facility into a new facility, consolidating work areas that were once spread over 33 acres and 65+ buildings into one building, centrally located within the Naval Construction Battalion Center (NCBC) compound at Port Hueneme. The physical move has resulted in a permanent reduction of overhead costs.

ANALYSIS OF BUDGET STATEMENTS

REVENUE - Revenue for the NFESC is fairly stable and follows changes in DLH that decrease to to 389,320 and 389,407 hours in FYs 1998 and 1999, respectively.

COST OF OPERATIONS - Overhead costs decrease across FY 1998 and FY 1999 are the result of the physical move onto the CB compound at Port Hueneme. NFESC continues to identify G&A overhead cost savings, targeting a 4% reduction in FY 1998 and 14% in FY 1999.

FINANCIAL CONDITION:
($ in Millions)

	FY 1997	FY 1998	FY 1999
Revenue	$62,374	$67,778	$60,955
Cost of Goods Sold	$62,396	$68,190	$61,739
NOR	($ 22)	$(412)	($784)
AOR	$ 1,196	$ 784	-0-

PERSONNEL:

MILITARY END STRENGTH:

FY 1997	FY 1998	FY 1999
4	4	3
4	4	3

CIVILIAN END STRENGTH AND WORKYEARS:

FY 1997	FY 1998	FY 1999
332/348	339/336	339/336

DIRECT LABOR HOURS:

FY 1997	FY 1998	FY 1999
415,113	389,320	389,407

DIRECT VERSUS INDIRECT COSTS - The ratio of direct to indirect costs is another measure of performance.

PERCENTAGE OF DIRECT TO INDIRECT COSTS:

FY 1997	FY 1998	FY 1999
79/21%	81/19%	80/20%

CUSTOMER RATE - The NFESC shows a mixed trend in both unit cost and stabilized billing rates from the FY 1996 Congressional budget. In FY 1998, a decrease in the amount of Direct Labor Hours caused unit cost to increase. The primary cause for the decrease in FY 1999 unit cost is a decrease in G&A expenses.

UNIT COST AND STABILIZED BILLING RATES:

	Unit Cost		
	FY 1997	FY 1998	FY 1999
Congress Budget:	$73.78	$73.44	$74.19
Current Estimate:	$71.46	$75.07	$73.65
	Stabilized Billing Rate:		
Congress Budget:	$70.61	$72.06	$74.35
Current Estimate:	$70.61	$72.06	$71.65
Percent Change:	-13.5%	2.1%	-0.6%

CAPITAL PROGRAM -

CAPITAL BUDGET AUTHORITY:
($ in Millions)

	FY 1997	FY 1998	FY 1999
Equipment-Non ADPE/TELECOM	.255	1.25	.5
ADPE/Telecom Equip.	0	0	0
Software Development	0	0	0
Minor Construction	0	0	0
Total	.255	1.25	.5

INDUSTRIAL BUDGET INFORMATION SYSTEM
REVENUE and EXPENSES
AMOUNT IN MILLIONS
NFESC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
Revenue:			
Gross Sales			
Operations	62.1	67.4	60.6
Surcharges	.0	.0	.0
Depreciation excluding Major Constructio	.3	.3	.3
Other Income			
Total Income	62.4	67.8	61.0
Expenses			
Cost of Materiel Sold from Inventory			
Salaries and Wages:			
Military Personnel	.3	.3	.2
Civilian Personnel	24.9	24.1	24.5
Travel and Transportation of Personnel	1.7	1.7	1.7
Material & Supplies (Internal Operations	13.3	16.0	11.9
Equipment	1.2	1.4	1.3
Other Purchases from NWCF	3.8	3.9	3.9
Transportation of Things	.4	.3	.3
Depreciation - Capital	.3	.3	.3
Printing and Reproduction	.1	.1	.1
Advisory and Assistance Services	.0	.0	.0
Rent, Communication & Utilities	.9	.5	.5
Other Purchased Sevices	14.3	19.6	16.9
Total Expenses	61.1	68.2	61.7
Work in Process Adjustment	1.3	.0	.0
Comp Work for Activity Reten Adjustment	.0	.0	.0
Cost of Goods Sold	62.4	68.2	61.7
Operating Result	.0	-.4	-.8
Less Surcharges	.0	.0	.0
Plus Appropriations Affecting NOR/AOR	.0	.0	.0
Other Changes Affecting NOR/AOR	.0	.0	.0
Net Operating Result	.0	-.4	-.8
Other Changes Affecting AOR	.0	.0	.0
Accumulated Operating Result	1.2	.8	.0

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NFESC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
1. New Orders	61.3	60.1	57.1
a. Orders from DoD Components	57.7	55.1	51.5
Department of the Navy	38.0	30.6	30.2
O & M, Navy	13.7	8.5	6.7
O & M, Marine Corps	2.7	2.7	2.8
O & M, Navy Reserve	.1	.0	.0
O & M, Marine Corp Reserve	.0	.0	.0
Aircraft Porcurement, Navy	.0	.0	.0
Weapons Procurement, Navy	.0	.0	.0
Ammunition Procurement, Navy/MC	.0	.0	.0
Shipbuilding & Conversion, Navy	.0	.0	.0
Other Procurement, Navy	-.1	.8	1.0
Procurement, Marine Corps	.0	.0	.0
Family Housing, Navy/MC	.3	.2	.2
Research, Dev., Test, & Eval., Navy	20.0	17.3	18.0
Military Construction, Navy	.9	1.0	1.2
Other Navy Appropriations	.5	.3	.3
Other Marine Corps Appropriations	.0	.0	.0
Department of the Army	1.2	1.2	1.3
Army Operation & Maintenence	.1	.1	.1
Army Res, Dev, Test, Eval	.6	.7	.7
Army Procurement	.0	.0	.0
Army Other	.5	.5	.5
Department of the Air Force	.0	.4	.4
Air Force Operation & Maintenence	.0	.0	.0
Air Force Res, Dev, Test, Eval	.0	.0	.0
Air Force Procurement	.0	.0	.0
Air Force Other	.0	.4	.4
DOD Appropriation Accounts	18.5	22.8	19.6
Base Closure & Realignment	.1	.5	.4
Operation & Maintence Accounts	.0	.1	.1
Res, Dev, Test & Eval Accounts	3.1	7.5	6.2
Procurement Accounts	.0	.0	.0
DOD Other	15.3	14.8	13.0
b. Orders from NWCF Business Area	2.8	4.3	5.1
c. Total DoD	60.5	59.3	56.5
d. Other Orders	.7	.8	.5
Other Federal Agencies	.2	.2	.2
Foreign Military Sales	.0	.0	.0
Non Federal Agencies	.6	.6	.4

INDUSTRIAL BUDGET INFORMATION SYSTEM
Source of Revenue
AMOUNT IN MILLIONS
NFESC / TOTAL

	FY 1997 CON	FY 1998 CON	FY 1999 CON
2. Carry-In Orders	33.0	31.9	24.2
3. Total Gross Orders	94.2	92.0	81.3
4. Funded Carry-Over **	31.9	24.2	20.3
5. Less Passthrough	.0	.0	.0
6. Total Gross Sales	62.4	67.8	61.0

** Carry over data before adjustments for work-in-process, BRAC, FMS, non-DOD and contractual obligations.

Exhibit Fund-11

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
BASE SUPPORT -- NFESC
CHANGES IN THE COSTS OF OPERATIONS
(DOLLARS IN THOUSANDS)

	Costs
FY 1997 Actual	61,109
FY 1998 Estimate in President's Budget:	54,221
Estimated Impact in FY 1998 of Actual FY 1997 Experience:	
Decrease due to inflation decrease	(296)
Pricing Adjustments	
Program Changes:	
Increase in Direct workload due to DOD Lock Program	15,000
Decrease in other direct workload	(870)
Increase due to change in CSRS/FERS and VSIP requirements	135
FY 1998 Current Estimate:	68,190
Pricing Adjustments:	
Pay Raise:	
FY 1999 CIVPERS Pay Raise	436
Annualization of FY 1997 Pay Raise	130
General Purchase Inflation	361
Change in CSRS/FERS and VSIP requirements	132
Productivity Initiatives and Other Efficiencies:	
Decrease in G&A Overhead costs	(1,067)
Program Changes:	
Decrease in DOD Lock Program workload	(3,564)
Decrease in contract costs	(2,873)
Decrease in workload shift to RMS	(790)
Decrease in prior year AOR recovery	784
FY 1999 Estimate	61,739

Fund 9a

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVAL FACILITIES ENGINEERING SERVICE CENTER
BASE OPERATIONS
(Dollars in Millions)

LINE #	Item Description	FY 1997		FY 1998		FY 1999	
		Quantity	Total Cost	Quantity	Total Cost	Quantity	Total Cost
	1a. Equipment- Non ADPE(>$500K)						
	- Replacement						
L0001		0	0.000	0	0.000	0	0.000
		0	0.000	0	0.000	0	0.000
		0	0.000	0	0.000	0	0.000
	- Productivity	0	0.000	0	0.000	0	0.000
	- New Mission	0	0.000	0	0.000	0	0.000
	- Environmental	0	0.000	0	0.000	0	0.000
	Subtotal Equipment (>$500K)	0	0.000	0	0.000	0	0.000
	1b. Equipment-Non ADPE (<$500K)						
L0002	- Replacement	2	0.255	4	1.250	1	0.500
	- Productivity	0	0.000	0	0.000	0	0.000
	- New Mission	0	0.000	0	0.000	0	0.000
L0003	- Environmental	0	0.000	0	0.000	0	0.000
	Subtotal Equipment (<$500K)	2	0.255	4	1.250	1	0.500
L0004	2. Minor Construction (>$100K<$300K)	0	0.000	0	0.000	0	0.000
L0005	3. ADPE & Telecomm (>$100K)	0	0.000	0	0.000	0	0.000
L0006	4. Software Development	0	0.000	0	0.000	0	0.000
	TOTAL	2	0.255	4	1.250	1	0.500

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
NAVAL FACILITIES ENGINEERING SERVICE CENTER
($ in Thousands)

A. FY 1999 CONGRESSIONAL

B. Department of the Navy/Base Support

C. L0002 Equipment- Replacement <$500,000

D. Public Works Centers

	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment-Replacement	2	127.50	255	4	312.50	1,250	1	500.00	500
TOTAL	2	127.50	255	4	312.50	1,250	1	500.00	500

Narrative Justification:

The Naval Facilities Engineering Service Center (NFESC) plans to replace outdated equipment to ensure the continued capability of Facilities, Ocean, Energy and Environmental Departments in support of the Naval Shore mission. Replacement of the equipment includes seafloor geothechnical survey and analysis system, deck hardware (double drum winch/capstains), dynamic load system for AWTTS, and ship engines for the M/V Independence which are essential to eliminate uneconomical repairs. Equipment requirements to support RDT&E and Engineering Support Services to include high technology components for precision machinery, instrumentation and measurement on site and in the field. Equipment purchases will support environmental quality, energy efficiency, ocean construction, electronic projects and facilities life management products and services. Equipment replacements will be required to sustain operations at current levels.

DEPARTMENT OF THE NAVY
DEFENSE BUSINESS OPERATIONS FUND
BASE OPERATIONS
NAVAL FACILITIES ENGINEERING COMMAND
PUBLIC WORKS CENTERS
FY 1998 BUDGET ESTIMATE

PROJECTS ON THE FY 1999 PRESIDENT'S BUDGET
(Dollars in Millions)

FY	Approved Project		REPROGS	APPROVED PROJ COST	CURRENT PROJ COST	ASSET/ DEFICIENCY	EXPLANATION
1998	Equipment except ADPE and TELCOM	0.000	0.000	0.000	0.000	0.000	
	Equipment - ADPE and TELCOM	1.250	0.000	1.250	1.250	0.000	
	Software Development	0.000	0.000	0.000	0.000	0.000	
	Minor Construction	0.000	0.000	0.000	0.000	0.000	
	TOTAL FY 1998	1.250	0.000	1.250	1.250	0.000	

DEPARTMENT OF THE NAVY
DEFENSE BUSINESS OPERATIONS FUND
BASE OPERATIONS
NAVAL FACILITIES ENGINEERING COMMAND
PUBLIC WORKS CENTERS
FY 1999 BUDGET ESTIMATE

PROJECTS ON THE FY 1999 PRESIDENT'S BUDGET
(Dollars in Millions)

FY	Approved Project		REPROGS	APPROVED PROJ COST	CURRENT PROJ COST	ASSET/ DEFICIENCY	EXPLANATION
1999	Equipment except ADPE and TELCOM	0.000	0.000	0.000	0.000	0.000	
	Equipment - ADPE and TELCOM	0.500	0.000	0.500	0.500	0.000	
	Software Development	0.000	0.000	0.000	0.000	0.000	
	Minor Construction	0.000	0.000	0.000	0.000	0.000	
	TOTAL FY 1999	0.500	0.000	0.500	0.500	0.000	

DEPARTMENT OF THE NAVY
NAVY WORKING CAPITAL FUND
ACTIVITY GROUP: SUPPLY MANAGMENT
FY 1998/1999 NAVY BUDGET SUBMIT

Activity Group Functions:

The Supply Management Activity Group performs inventory management functions that result in the sale of aviation and shipboard components, fuel, ships store stock, general use consumables including subsistence material, and publications and forms to a wide variety of customers. Major customers include Fleet and Marine Corps forces, Department of the Navy shore activities, Army, Air Force, Defense agencies, and other government agencies and foreign governments. All costs related to supplying this material to the customer are recouped through stabilized rates which include a surcharge to cover costs such as inventory losses, transportation, obsolescence and cost of inventory management, the receipt and issue of Department managed material and Department owned retail material at distribution depots, and the depreciation of capital assets. In addition, the stabilized rates include surcharges to build the Navy Working Capital Fund cash corpus (FY 1998 & FY 1999), and collect costs pertaining to the Joint Logistics Systems Center (FY 1998) and the Defense Reutilization and Marketing Service (FY 1998 & FY 1999).

Activity Group Composition:

Operations costs for the following activities are funded in this Activity Group:

Naval Inventory Control Point, Mechanicsburg/Philadelphia, PA
Fleet and Industrial Supply Center, Norfolk, VA
Fleet and Industrial Supply Center, San Diego, CA
Fleet and Industrial Supply Center, Puget Sound, WA
Fleet and Industrial Supply Center, Jacksonville, FL
Fleet and Industrial Supply Center, Pearl Harbor, HI
Fleet and Industrial Supply Center, Yokosuka, JP
Fleet and Industrial Supply Center, Oakland, CA
Fitting Out and Supply Support Assistance Center, Norfolk, VA

Significant Changes in Activity Group:

Due to the decisions announced through the BRAC III and IV process, FISC Guam closed at the end of FY 1997 and FISC Oakland will close by the end of FY 1998.

Performance Indicators

	FY 1997	FY 1998	FY 1999
No. of Items Managed	342,517	350,000	355,000
No. of Receipts	891,402	1,115,150	1,103,400
No. of Issues	1,268,238	1,295,800	1,268,200
Requisitions Received	800,839	816,850	800,600
Contracts Executed	29,362	26,400	23,800
Supply Material Availability:	80.4%	82.0%	83.8%
Purchase Inflation	2.2%	1.5%	1.6%
Customer Rate Changes	8.6%	26.3%	-5.8%
Composite Surcharge	27.4%	57.4%	44.3%
Cost of Material Sold ($M) from Inventory	4,331.1	4,607.4	4426.5

Financial Profile:

(Dollars in Millions)

	FY 1997	FY 1998	FY 1999
Revenue	5,278.0	6,172.7	5,735.0
Expenses	5,428.0	5,927.4	5,634.1
Cash Surcharge	59.5	214.7	35.0
Net Operating Result	-209.5	30.6	65.9
Accum. Operating Result	-96.5	-65.9	0.0

Discussion of Changes:

Revenue:
The variation observed in wholesale sales is largely driven by the wholesale surcharge. The FY 1997 composite surcharge was 27.4%, the FY 1998 composite

surcharge is 57.5%, and the FY 1999 will be 44.3%. Retail sales also increase due to an increase in fuel prices (Budget Project (BP) 38).

Expenses:
The growth in expenses from FY 1997 to FY 1998 is driven by an increase in operating and overhead (BP91) costs as well as a decline in negative expenses associated with the end of Defense Management Review Decision (DMRD) 971 efficiencies. BP91 increases include +$25.8M in Defense Logistics Agency (DLA) reimbursables, +$85.9M to DRMS, +$8.2M for Defense Information Services Agency (DISA) rate changes, and +$6.6 for foreign national indirect hires. An increase in fuel (BP38) obligations account for a small portion of the increase. Variation from FY 1998 to FY 1999 is driven by a decrease in retail obligations for fuel. The transportation initiative (described below) accounts for a decrease in FY 1999 BP91 obligations.

Obligational Authority:

(Dollars in Millions)

	FY 1997	FY 1998	FY 1999
Wholesale	1,957.0	2,528.8	2,270.2
Retail	2,088.1	2,281.1	2,087.4
Operating	1,134.3	1,277.7	1,127.9
Total	5,179.4	6,087.6	5,485.5

Discussion of Changes:

Wholesale:
The change from FY 1997 to FY 1998 is due primarily to the following:

BP14. (+$14.0M) An increase driven by the buy-in of the fleet's replacement Emergency Escape Breathing Device (EEBD) partially offset by reductions in other special programs.

BP34. (+$110.9M) The increase is primarily due to retaining blades and vanes within the BP rather than effect their transfer to DLA. Two drivers; new Russian titanium technology will allow previously consumable blades to become repairables, and delays in the Consumable Item Transfer (CIT) have driven changes in the requirement.

BP81. (+$118.8M) The increase is driven primarily by an investment in two cost savings initiatives, Direct Vendor Delivery (DVD) and Logistics Engineering Change Proposals (LECP). There is also a slight increase in the basic requirement.

BP85. (+$328.1M) The increase is primarily driven by a carry forward of requirement from FY 1997 of $78.0M, $67.0M is required to support increases in the DON FY 1998 flying hour program and $30.0M is required to take advantage of long term contracting opportunities. Program changes and special programs account for the remainder.

The change from FY 1998 to FY 1999 is due to the following:

(-$258.6M) In BP34 and BP85, the basic replenishment requirements are down significantly from the previous year due to reduced customer demand.

Retail:

The increase from FY 1997 to FY 1998 is due to the following:

(+$189.5M) Additional funds required to support increased BP38 sales associated with the projected flying hour program.

The change from FY 1998 to FY 1999 is due to the following:

(-$193.7M) The decrease stems from continued PR99 initiatives in BP28 and a reduction in BP38 fuel sales.

Workload:

(Dollars in Millions)

Gross Sales

	FY 1997	FY 1998	FY 1999
Wholesale	3,225.7	4,073.1	3,652.4
Retail	2,014.2	2,179.2	2,079.6
Total	5,239.9	6,252.3	5,732.0

Discussion of Changes:

The increase in FY 1998 Retail sales is directly attributable to increases in fuel (BP 38) prices. Year-to-year fluctuations in Wholesale sales are primarily driven by changes in the wholesale surcharge. Adjusting for the surcharge difference from year to year, wholesales sales remain steady.

(Dollars in Millions)

Wholesale Gross Sales	FY 1997	FY 1998	FY 1999
Wholesale	3,225.7	4,073.1	3,652.4
Wholesale less Surcharge	2,531.9	2,586.1	2,531.1

Staffing:

	FY 1997	FY 1998	FY 1999
Civilian End Strength	7,454	7,168	6,887
Civilian Work Years	7,399	7,261	6,988
Military End Strength	576	477	477
Military Work Years	569	527	477

Discussion of Changes:

The changes in civilian end strength and workyears from FY 1997 to FY 1998 are primarily the result of functional transfers (i.e., FISC Guam personnel to NAVACTS Guam; DFAS Pacific Consolidation impact at FISC Yokosuka) and supply partnerships that NAVSUP has entered into with other major claimants to reduce the Navy's infrastructure by allowing the customer to eliminate/downsize their supply organizations. These partnerships are "other reimbursables" to the NWCF, in that they are funded by the customer and thus do not contribute to the surcharge. In addition, NAVSUP is also striving to reduce its own infrastructure through workload reengineering actions such as SERVMART outsourcing, direct vendor delivery, automated identification technology and others.

From FY 1998 to FY 1999, NAVSUP will continue its workload reengineering efforts and supply partnerships with other major claimants. Also, the Cataloging Consolidation directed by PBD 425 will result in a reduction of 92 NAVSUP's civilian personnel.

Military end strength will decrease by 99 in FY 1998 due to the closure of FISCs Guam and Oakland, plus downsizing efforts at other FISCs. No change is anticipated in military end strength between FY 1998 and FY 1999.

Unit Cost:

	FY 1997	FY 1998	FY 1999
Wholesale	.88	.89	.86
Retail	1.05	1.06	1.01

Headquarters Cost:

(Dollars in Millions)

	FY 1997	FY 1998	FY 1999
Cost of Management	5.3	5.4	4.6

Capital Budget Authority:

(Dollars in Million)

	FY 1997	FY 1998	FY 1999
Equipment Non ADPE/Telecom	9.9	8.4	7.9
ADPE/Telecom Equipment	7.9	9.4	7.0
Software Development	8.7	23.1	15.7
Minor Construction	1.2	1.3	1.3
Reliability, Maintainability & Supportability Mods	0.0	0.0	0.0
Total	27.8	42.2	31.9

Discussion of Changes:

Capital Budget Authority (CPP) authority in the Supply Management Activity Group reflects changes from FY 1997 actuals to FY 1998 of a single year increase of $11.2M due to the JLSC legacy programs moving back to Navy for management. The decrease of $10.2M from FY 1998 to FY 1999 represents a decrease to normal levels after the large single year increase in FY 1998.

Economies and Efficiencies:

The following savings are reflected in this submission. They represent Fleet and System Command coordinated decisions to reduce overall material requirements through such initiatives as reduced allowances for Aviation Coordinated Allowance Listings (AVCALS) and CONUS Pack up Kits (PUKs), reliance on premium transportation to offset inventory requirements, reductions to regional COSBALS, investment in Logistics Engineering Change Proposals (LECPs),

increased asset visibility and the reduction to retail requirements discussed earlier by getting out of segments of retail operations.

NWCF Obligations Authority Savings:

($M)	FY 1997	FY 1998	FY 1999
Wholesale	81.6	138.7	71.0
Retail	168.0	283.9	319.5
Total	249.6	422.6	390.5

Special Budget Initiatives:

Transportation. In FY 1999, this budget reflects a change in the method transportation obligations are requested. In recent years, transportation costs were requested under BP91 and recovered through the surcharge. Starting in FY 1999, each wholesale material BP has included in the obligation request costs for material transportation. The breakout is as follows:

BP14	$ 4.0M
BP34	$ 5.6M
BP81P	$ 13.6M
BP81R	$ 9.5M
BP85P	$ 22.1M
BP85R	$ 50.9M
Total	$105.7M

Burdening the cost of material with transportation is more reflective of true Cost of goods sold and is in line with industry standards. This initiative preserves the basic tenet of full cost recovery under NWCF and in no way provides a financial benefit to the customer. A reversal of this initiative requires that obligational authority be reinstated in BP91. A secondary benefit of this initiative is a reduction in the surcharge percentage. High surcharges may drive adverse customer behavior, which negatively impacts NWCF performance.

NAVY CAPITAL WORKING FUND
COMPONENT BUSINESS AREA: SUPPLY MANAGEMENT — FUND 14
REVENUE AND EXPENSE SUMMARY
(Dollars in Millions)

	FY 1997	FY 1998	FY 1999
REVENUE:			
Net Sales			
Operations	4861.9	5786.7	5387.1
Collection for JLSC	59.5	48.0	0.0
Depreciation except Maj Const	23.6	24.3	24.5
Major Construction Dep	0.0	0.0	0.0
Other Income	333.0	313.7	323.4
Refunds/Discounts (-)			
Total Income:	5278.0	6172.7	5735.0
EXPENSES:			
Cost of Materiel Sold from Inventory	4331.1	4607.4	4426.5
Salaries and Wages:			
Military Personnel	22.1	21.3	22
Civilian Personnel	431.4	320.3	321.3
Travel & Transportation of Personnel	13.8	13.3	13.3
Materials & Supplies	48.7	27.2	27.7
Equipment	16.0	8.4	8.5
Other Purchases from Revolving Funds	266.2	397.5	353.9
Transportation of Things	107.0	98.0	0.0
Depreciation - Capital	23.6	24.3	24.5
Printing and Reproduction	-0.1	0.2	0.2
Advisory and Assistance Services	11.7	12.0	12.2
Rent, Communication, Utilities & Misc	21.6	9.8	10.0
Other Purchased Services	-59.6	167.3	100.3
Inventory Gains and Losses	194.6	219.6	313.5
TOTAL EXPENSES	5427.9	5927.4	5634.1
Operating Result	-149.9	245.3	100.9
Less Expense for JLSC/Cash	59.5	214.7	35
Plus Appropriations Affecting NOR/AOR	0.0	0.0	0.0
Other Changes Affecting NOR	0.0	0.0	0.0
Net Operating Result	-209.5	30.6	65.9
Other Changes Affecting AOR			
Accumulated Operating Result	-96.5	-65.9	0.0

SUPPLY MANAGEMENT - NAVY
SOURCE OF REVENUE
Dollars in Millions

	FY 1997	FY 1998	FY 1999
1. New Orders			
a. Orders from Dod Components:			
Own Component			
1105 Military Personnel, M.C.			
1106 O&M Marine Corps	3.5	3.4	3.5
1107 O&M M.C. Reserve			
1108 Reserve Personnel, M.C.			
1109 Procurement, M.C.			
1319 RDT & E, Navy			
1405 Reserve Personnel, Navy	0.0	0.0	0.0
1453 Military Personnel, Navy	26.0	25.6	26.2
1506 Aircraft Procurement, Navy	432.3	396.6	350.4
1611 Shipbuidlding & Conv. Navy	51.1	25.7	28.0
1804 O&M, Navy	2922.3	3487.4	3281.1
1806 O&M, Navy Reserve	131.8	150.1	140.6
1810 Other Procurement, Navy	56.0	87.9	112.9
4930 Navy Working Capital Fund	1024.2	1444.4	904.0
8421 Trust Revolving Fund, M.C.			
	4647.2	5621.1	4846.7
Orders from other DoD Components			
2100 Army	-13.5	-20.8	-12.8
5700 Air Force	30.1	36.5	31.6
9700 Other DoD	440.9	526.4	458.3
	457.5	542.1	477.0
b. Orders from other Fund Business Areas:			
Distribution Depots, Navy			
Logistics Support, Navy			
	0.0	0.0	0.0
c. Total DoD	5104.7	6163.2	5323.7
d. Other Orders:			
Other Federal Agencies	73.9	83.5	77.0
Trust Fund			
Non-Federal Agencies	0.0	0.0	0.0
Foreign Military Sales (FMS)	138.6	217.0	319.7
	212.5	300.5	396.7
2. Carry-In Orders	1141.0	1218.4	1429.8
3. Total Gross Orders	6458.2	7682.1	7150.2
4. Change to Backlog	1218.4	1429.8	1418.3
Total Gross Sales*	5239.8	6252.3	5731.9
Reimbursable Orders (BP 91)	333.0	313.7	323.4

Supply Management Activity Group
(dollars in thousands)

	OBLIGATIONS
1. FY 1997 Actual	5,179.4
2. FY 1998 Estimate in President's Budget	5,709.8
3. Pricing Adjustments:	
Fund Price Changes	(140.2)
Supplies, Material & Equipment	0.0
Other Intrafund Purchases	(128.0)
Industrial Fund Purchases	(3.1)
General Purchase Inflation	(9.1)
4. Workload Changes:	518.0
Consumable Item Transfer	0.0
Force Reduction (Wholesale Procurement)	456.1
Force Reduction (Retail)	(3.4)
Force Reduction (Wholesale Repair)	65.3
Master Labor Contract (FNIH) with GOJ	0.0
FISC "pass-thru"	0.0
ICP "pass-thru"	0.0
Adj driven by changes in sales	0.0
PR-99 Transportation Savings	0.0
Base Communications Transfer to NCTC	0.0
CPP	0.0
NULO/UMD Clearance	0.0
Change in Workload	0.0
5. FY 1998 Current Estimate	6,087.6
6. Pricing Adjustments:	91.0
Annualization of Prior Year Pay Raises	2.6
FY 1997 Pay Raise	5.1
Civilian Personne	4.2
Military Personne	0.9
DBOF Price Changes:	83.3
Supplies, Material & Equipment	0.0
Other Intrafund Purchases	44.5
Industrial Fund Purchases	61.9
General Purchase Inflation	(23.1)
7. Productivity Initiatives and Other Efficiencies	(7.4)
HRO Regionalization	(3.1)
POM OH Reduction	(4.3)
8. Workload Changes:	(555.3)
Active Duty Personnel Downsizing	(0.2)
Force Level Reduction (Operations)	(9.4)
Adjustment driven by Change in Sales	(25.2)
Force Reduction (Wholesale Procurement)	(407.9)
Force Reduction (Retail)	(160.9)
Force Reduction (Wholesale Repair)	48.3
9. Other Changes:	(130.4)
Milpers Adjustment	(1.0)
FISC Guam to NAVACTs/BRAC IV Savings	(8.9)
DGAR to FISC Yoko	1.1
Transfer SWT to Material	(97.2)
PR99 Guidance	11.2
DLA Distribution Depots Pricing	22.2
DRMS Guidance	(64.1)
Transfer of JLSC Programs to Navy	7.8
Transfer of SSPO Programs	(1.6)
10. FY 1999 Current Estimate:	5,485.5

FY97		Procured from DPSC			Procured Locally	
Product	Barrels	U/P	Ext Cost	Barrels	U/P	Ext Cost
JP5	14.010	$33.18	$464.8	0.000	$28.89	$0.0
JP4	0.000	$32.34	$0.0	0.000	$25.99	$0.0
AVGAS	0.002	$99.12	$0.2	0.000	$74.75	$0.0
Distillates (DFM)	16.677	$31.08	$518.3	0.000	$28.61	$0.0
MOGAS Leaded	0.000	$38.22	$0.0	0.000	$38.29	$0.0
MOGAS Unleaded	0.076	$31.08	$2.4	0.003	$29.16	$0.1
Residual (Heating Oil)	1.427	$18.90	$27.0	0.064	$13.19	$0.8
Lube Oil	0.014	$102.48	$1.4	0.000	$103.33	$0.0
Reclaimed	0.179	$19.32	$3.5	0.000	$22.18	$0.0
TOTAL	32.385		$1,017.6	0.067		$0.9

Total Obligations $1,018.5

FY98		Procured from DPSC			Procured Locally	
Product	Barrels	U/P	Ext Cost	Barrels	U/P	Ext Cost
JP5	14.091	$39.06	$550.4	0.000	$28.52	$0.0
JP4	0.000	$49.56	$0.0	0.000	$25.66	$0.0
AVGAS	0.002	$153.30	$0.3	0.000	$73.79	$0.0
Distillates (DFM)	16.658	$36.96	$615.7	0.000	$28.24	$0.0
MOGAS Leaded	0.000	$44.94	$0.0	0.000	$37.80	$0.0
MOGAS Unleaded	0.076	$36.96	$2.8	0.003	$28.79	$0.1
Residual (Heating Oil)	1.411	$23.10	$32.6	0.089	$13.02	$1.2
Lube Oil	0.016	$105.35	$1.6	0.000	$102.00	$0.0
Reclaimed	0.242	$14.28	$3.4	0.000	$20.25	$0.0
TOTAL	32.496		$1,206.8	0.092		$1.2

Total Obligations $1,208.0

FY99		Procured from DPSC			Procured Locally	
Product	Barrels	U/P	Ext Cost	Barrels	U/P	Ext Cost
JP5	12.915	$35.70	$461.1	0.000	$28.52	$0.0
JP4	0.000	$45.36	$0.0	0.000	$25.66	$0.0
AVGAS	0.001	$139.86	$0.1	0.000	$73.79	$0.0
Distillates (DFM)	17.731	$33.60	$595.7	0.000	$28.24	$0.0
MOGAS Leaded	0.000	$41.16	$0.0	0.000	$37.80	$0.0
MOGAS Unleaded	0.047	$33.60	$1.6	0.003	$28.79	$0.1
Residual (Heating Oil)	1.063	$21.00	$22.3	0.055	$13.02	$0.7
Lube Oil	0.008	$108.51	$0.9	0.000	$102.00	$0.0
Reclaimed	0.287	$14.70	$4.2	0.000	$20.25	$0.0
TOTAL	32.052		$1,085.9	0.058		$0.8

Total Obligations $1,086.7

NAVY SUMMARY

SM-1

FY 1997

(Dollars in Millions)

DIVISION	PEACETIME INVENTORY	NET CUSTOMER ORDERS	NET SALES	OBLIGATION TARGETS OPERATING	MOBILIZATION	OTHER	TOTAL OBLIGATIONS	COMMITMENT TARGET	TARGET TOTAL	CREDIT SALES
BP 14										
Approved	829.7	107.7	107.7	84.1	0.0	0.0	84.1	6.8	90.9	5.9
Request	898.6	106.4	106.1	87.4	0.0	0.0	87.4	6.8	94.2	2.6
Delta	68.9	(1.3)	(1.6)	3.3	0.0	0.0	3.3	0.0	3.3	(3.3)
BP 15										
Approved	19.1	7.7	7.7	8.1	0.0	0.0	8.1	0.7	8.8	0.0
Request	20.9	7.3	7.3	4.2	0.0	0.0	4.2	0.7	4.9	0.0
Delta	1.8	(0.4)	(0.4)	(3.9)	0.0	0.0	(3.9)	0.0	(3.9)	0.0
BP 21										
Approved	40.7	92.0	92.0	90.5	0.0	0.0	90.5	7.3	97.8	0.0
Request	29.5	93.0	93.3	89.7	0.0	0.0	89.7	7.3	97.0	0.0
Delta	(11.2)	1.0	1.3	(0.8)	0.0	0.0	(0.8)	0.0	(0.8)	0.0
BP 23										
Approved	67.0	36.1	36.1	30.3	0.0	0.0	30.3	2.5	32.8	0.0
Request	68.3	17.1	17.1	23.1	0.0	0.0	23.1	2.5	25.6	0.0
Delta	1.3	(19.0)	(19.0)	(7.2)	0.0	0.0	(7.2)	0.0	(7.2)	0.0
BP 25										
Approved	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.1	1.1	0.0
Request	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Delta	0.0	0.0	(1.0)	(1.0)	0.0	0.0	(1.0)	0.0	(1.0)	0.0
BP 28										
Approved	1,282.4	1,058.4	1,064.6	1,116.1	0.0	0.0	1,116.1	90.4	1,206.5	21.6
Request	1,356.5	852.0	852.0	952.6	0.0	0.0	952.6	90.4	1,043.0	18.3
Delta	74.1	(206.4)	(212.6)	(163.5)	0.0	0.0	(163.5)	0.0	(163.5)	(3.3)
BP 34										
Approved	937.5	379.0	365.4	272.6	0.0	0.0	272.6	22.1	294.7	9.6
Request	881.7	363.7	398.2	262.6	0.0	0.0	262.6	22.1	284.7	10.3
Delta	(55.8)	(15.3)	32.8	(10.0)	0.0	0.0	(10.0)	0.0	(10.0)	0.7
BP 38										
Approved	233.2	1,010.2	1,010.2	1,012.8	0.0	0.0	1,012.8	82.0	1,094.8	2.0
Request	203.6	1,024.4	1,024.4	1,018.5	0.0	0.0	1,018.5	82.0	1,100.5	1.8
Delta	(29.6)	14.2	14.2	5.7	0.0	0.0	5.7	0.0	5.7	(0.2)
BP 81										
Approved	6,534.7	572.9	572.9	413.5	0.0	0.0	413.5	33.5	447.0	59.9
Request	6,546.1	457.6	467.6	296.9	0.0	0.0	296.9	33.5	330.4	46.1
Delta	11.4	(115.3)	(105.3)	(116.6)	0.0	0.0	(116.6)	0.0	(116.6)	(13.8)
BP85			*** REPAIR->*	*146.6*						
Approved	19,093.2	2,085.7	2,086.4	1,355.2	0.0	0.0	1,355.2	109.8	1,465.0	205.8
Request	18,090.6	1,894.0	1,979.0	1,310.1	0.0	0.0	1,310.1	109.7	1,419.8	215.8
Delta	(1,002.6)	(191.7)	(107.4)	(45.1)	0.0	0.0	(45.1)	(0.1)	(45.2)	10.0
BP 91			*** REPAIR->*	*924.8*						
Approved	0.0	0.0	0.0	1,378.0	0.0	0.0	1,378.0	0.0	1,378.0	0.0
Request	0.0	0.0	0.0	1,134.3	0.0	0.0	1,134.3	0.0	1,134.3	0.0
Delta	0.0	0.0	0.0	(243.7)	0.0	0.0	(243.7)	0.0	(243.7)	0.0
TOTAL										
Approved	29,037.5	5,349.7	5,344.0	5,762.2	0.0	0.0	5,762.2	355.2	6,117.4	304.8
Request	28,095.8	4,815.5	4,945.0	5,179.4	0.0	0.0	5,179.4	355.1	5,534.5	294.9
Delta	(941.7)	(534.2)	(399.0)	(582.8)	0.0	0.0	(582.8)	(0.1)	(582.9)	(9.9)

NAVY SUMMARY

SM-1

FY 1998

(Dollars in Millions)

DIVISION	PEACETIME INVENTORY	NET CUSTOMER ORDERS	NET SALES	OBLIGATION TARGETS: OPERATING	MOBILIZATION	OTHER	TOTAL OBLIGATIONS	COMMITMENT TARGET	TARGET TOTAL	CREDIT SALES
BP 14										
Approved	940.1	118.2	118.2	81.8	0.0	0.0	81.8	6.1	87.9	6.5
Request	993.8	108.9	108.9	101.4	0.0	0.0	101.4	7.6	109.0	5.9
Delta	53.7	(9.3)	(9.3)	19.6	0.0	0.0	19.6	1.5	21.1	(0.6)
BP 15										
Approved	17.9	7.5	7.5	7.9	0.0	0.0	7.9	0.6	8.5	0.0
Request	19.5	7.3	7.3	6.6	0.0	0.0	6.6	0.5	7.1	0.0
Delta	1.6	(0.2)	(0.2)	(1.3)	0.0	0.0	(1.3)	(0.1)	(1.4)	0.0
BP 21										
Approved	38.6	91.5	91.5	90.2	0.0	0.0	90.2	6.8	97.0	0.0
Request	28.2	91.5	91.5	90.2	0.0	0.0	90.2	6.8	97.0	0.0
Delta	(10.4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BP 23										
Approved	70.3	40.0	40.0	34.0	0.0	0.0	34.0	2.6	36.6	0.0
Request	61 4	30.9	30.9	24.9	0.0	0.0	24.9	2.6	27.5	0.0
Delta	(8.9)	(9.1)	(9.1)	(9.1)	0.0	0.0	(9.1)	0.0	(9.1)	0.0
BP 25										
Approved	0 0	0.0	1.0	1.0	0.0	0.0	1.0	0.1	1.1	0.0
Request	0 0	0.0	1.0	1.0	0.0	0.0	1.0	0.1	1.1	0.0
Delta	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BP 28										
Approved	1,236 1	1,134.1	1,140.3	1,173.6	0.0	0.0	1,173.6	88.1	1,261.7	23.2
Request	1,355.6	831.7	831.7	950.4	0.0	0.0	950.4	71.9	1,022.3	21.1
Delta	119.5	(302.4)	(308.6)	(223.2)	0.0	0.0	(223.2)	(16.2)	(239.4)	(2.1)
BP 34										
Approved	965 7	262.3	245.9	136.7	0.0	0.0	136.7	10.3	147.0	4.1
Request	776.8	450.8	443.3	373.5	0.0	0.0	373.5	28.1	401.6	9.3
Delta	(188.9)	188.5	197.4	236.8	0.0	0.0	236.8	17.8	254.6	5.2
BP 38										
Approved	267.5	1,114.7	1,114.7	1,127.6	0.0	0.0	1,127.6	84.7	1,212.3	2.1
Request	201.0	1,195.1	1,195.1	1,208.0	0.0	0.0	1,208.0	90.7	1,298.7	0.6
Delta	(66.5)	80.4	80.4	80.4	0.0	0.0	80.4	6.0	86.4	(1.5)
BP 81										
Approved	6,801.3	711.8	711.8	434.0	0.0	0.0	434.0	32.6	466.6	65.5
Request	7,140.4	566.5	566.5	415.7	0.0	0.0	415.7	34.8	450.5	74.8
Delta	339.1	(145.3)	(145.3)	(18.3)	0.0	0.0	(18.3)	2.2	(16.1)	9.3
BP85			** *REPAIR->*	*221.6*						
Approved	22,421.5	2,244.6	2,482.6	1,344.4	0.0	0.0	1,344.4	100.9	1,445.3	207.1
Request	20,537.1	2,483.6	2,582.8	1,638.2	0.0	0.0	1,638.2	132.0	1,770.2	281.6
Delta	(1,884.4)	239.0	100.2	293.8	0.0	0.0	293.8	31.1	324.9	74.5
BP 91			** *REPAIR->*	*991.2*						
Approved	0.0	0.0	0.0	1,278.6	0.0	0.0	1,278.6	0.0	1,278.6	0.0
Request	0.0	0.0	0.0	1,277.7	0.0	0.0	1,277.7	0.0	1,277.7	0.0
Delta	0.0	0.0	0.0	(0.9)	0.0	0.0	(0.9)	0.0	(0.9)	0.0
TOTAL										
Approved	32,759.0	5,724.7	5,953.5	5,709.8	0.0	0.0	5,709.8	332.8	6,042.6	308.5
Request	31,113.8	5,766.3	5,859.0	6,087.6	0.0	0.0	6,087.6	375.1	6,462.7	393.3
Delta	(1,645.2)	41.6	(94.5)	377.8	0.0	0.0	377.8	42.3	420.1	84.8

NAVY SUMMARY
FY 1999
(Dollars in Millions)

DIVISION	PEACETIME INVENTORY	NET CUSTOMER ORDERS	NET SALES	OBLIGATION TARGETS OPERATING	MOBILIZATION	OTHER	TOTAL OBLIGATIONS	COMMITMENT TARGET	TARGET TOTAL	CREDIT SALES
BP 14										
Approved	857.5	113.7	113.7	81.8	0.0	0.0	81.8	6.0	87.8	6.6
Request	857.2	147.5	147.5	103.8	0.0	0.0	103.8	7.6	111.4	5.9
Delta	(0.3)	33.8	33.8	22.0	0.0	0.0	22.0	1.6	23.6	(0.7)
BP 15										
Approved	16.9	7.2	7.2	7.8	0.0	0.0	7.8	0.6	8.4	0.0
Request	18.4	7.0	7.0	6.5	0.0	0.0	6.5	0.5	7.0	0.0
Delta	1.5	(0.2)	(0.2)	(1.3)	0.0	0.0	(1.3)	(0.1)	(1.4)	0.0
BP 21										
Approved	38.7	90.0	90.0	88.5	0.0	0.0	88.5	6.5	95.0	0.0
Request	26.6	90.0	90.0	88.5	0.0	0.0	88.5	6.5	95.0	0.0
Delta	(12.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BP 23										
Approved	66.6	45.0	45.0	38.3	0.0	0.0	38.3	2.8	41.1	0.0
Request	57.7	34.9	34.9	28.2	0.0	0.0	28.2	2.8	31.0	0.0
Delta	(8.9)	(10.1)	(10.1)	(10.1)	0.0	0.0	(10.1)	0.0	(10.1)	0.0
BP 25										
Approved	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.1	1.1	0.0
Request	0 0	0.0	1.0	1.0	0.0	0.0	1.0	0.1	1.1	0.0
Delta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BP 28										
Approved	1,224.6	1,127.4	1,133.6	1,155.2	0.0	0.0	1,155.2	84.8	1,240.0	23.1
Request	1,240.1	830.9	830.9	876.5	0.0	0.0	876.5	65.4	941.9	21.1
Delta	15.5	(296.5)	(302.7)	(278.7)	0.0	0.0	(278.7)	(19.4)	(298.1)	(2.0)
BP 34										
Approved	1,065.5	174.8	175.1	93.8	0.0	0.0	93.8	6.9	100.7	3.6
Request	690.5	285.6	307.7	255.6	0.0	0.0	255.6	19.0	274.6	6.8
Delta	(375.0)	110.8	132.6	161.8	0.0	0.0	161.8	12.1	173.9	3.2
BP 38										
Approved	263.7	1,126.9	1,126.9	1,130.1	0.0	0.0	1,130.1	83.0	1,213.1	2.1
Request	183.0	1,094.7	1,094.7	1,086.7	0.0	0.0	1,086.7	42.1	1,128.8	0.0
Delta	(80.7)	(32.2)	(32.2)	(43.4)	0.0	0.0	(43.4)	(40.9)	(84.3)	(2.1)
BP 81										
Approved	5,739.8	681.7	681.7	418.7	0.0	0.0	418.7	30.7	449.4	67.0
Request	5,577.3	628.9	616.5	425.6	0.0	0.0	425.6	35.0	460.6	79.7
Delta	(162.5)	(52.8)	(65.2)	6.9	0.0	0.0	6.9	4.3	11.2	12.7
BP85			** REPAIR->	*241.4*						
Approved	21,575.6	2,067.7	2,115.7	1,132.9	0.0	0.0	1,132.9	83.2	1,216.1	199.0
Request	18,932.7	1,985.0	2,281.1	1,485.2	0.0	0.0	1,485.2	111.2	1,596.4	207.2
Delta	(2,642.9)	(82.7)	165.4	352.3	0.0	0.0	352.3	28.0	380.3	8.2
BP 91			** REPAIR->	*1,092.9*						
Approved	0.0	0.0	0.0	1,196.2	0.0	0.0	1,196.2	0.0	1,196.2	0.0
Request	0.0	0.0	0.0	1,127.9	0.0	0.0	1,127.9	0.0	1,127.9	0.0
Delta	0.0	0.0	0.0	(68.3)	0.0	0.0	(68.3)	0.0	(68.3)	0.0
TOTAL										
Approved	30,848.9	5,434.4	5,489.9	5,344.3	0.0	0.0	5,344.3	304.6	5,648.9	301.4
Request	27,583.5	5,104.5	5,411.3	5,485.5	0.0	0.0	5,485.5	290.2	5,775.7	320.7
Delta	(3,265.4)	(329.9)	(78.6)	141.2	0.0	0.0	141.2	(14.4)	126.8	19.3

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NAVY SUMMARY

SM-1

FY 1997

(Dollars in Millions)

DIVISION	PEACETIME INVENTORY	NET CUSTOMER ORDERS	NET SALES	OBLIGATION TARGETS: OPERATING	OBLIGATION TARGETS: MOBILIZATION	OBLIGATION TARGETS: OTHER	TOTAL OBLIGATIONS	COMMITMENT TARGET	TARGET TOTAL	CREDIT SALES
BP 14										
Approved	829.7	107.7	107.7	84.1	0.0	0.0	84.1	6.8	90.9	5.9
Request	898.6	106.4	106.1	87.4	0.0	0.0	87.4	6.8	94.2	2.6
Delta	68.9	(1.3)	(1.6)	3.3	0.0	0.0	3.3	0.0	3.3	(3.3)
BP 15										
Approved	19.1	7.7	7.7	8.1	0.0	0.0	8.1	0.7	8.8	0.0
Request	20.9	7.3	7.3	4.2	0.0	0.0	4.2	0.7	4.9	0.0
Delta	1.8	(0.4)	(0.4)	(3.9)	0.0	0.0	(3.9)	0.0	(3.9)	0.0
BP 21										
Approved	40.7	92.0	92.0	90.5	0.0	0.0	90.5	7.3	97.8	0.0
Request	29.5	93.0	93.3	89.7	0.0	0.0	89.7	7.3	97.0	0.0
Delta	(11.2)	1.0	1.3	(0.8)	0.0	0.0	(0.8)	0.0	(0.8)	0.0
BP 23										
Approved	67.0	36.1	36.1	30.3	0.0	0.0	30.3	2.5	32.8	0.0
Request	68.3	17.1	17.1	23.1	0.0	0.0	23.1	2.5	25.6	0.0
Delta	1.3	(19.0)	(19.0)	(7.2)	0.0	0.0	(7.2)	0.0	(7.2)	0.0
BP 25										
Approved	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.1	1.1	0.0
Request	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Delta	0.0	0.0	(1.0)	(1.0)	0.0	0.0	(1.0)	0.0	(1.0)	0.0
BP 28										
Approved	1,282.4	1,058.4	1,064.6	1,116.1	0.0	0.0	1,116.1	90.4	1,206.5	21.6
Request	1,356.5	852.0	852.0	952.6	0.0	0.0	952.6	90.4	1,043.0	18.3
Delta	74.1	(206.4)	(212.6)	(163.5)	0.0	0.0	(163.5)	0.0	(163.5)	(3.3)
BP 34										
Approved	937.5	379.0	365.4	272.6	0.0	0.0	272.6	22.1	294.7	9.6
Request	881.7	363.7	398.2	262.6	0.0	0.0	262.6	22.1	284.7	10.3
Delta	(55.8)	(15.3)	32.8	(10.0)	0.0	0.0	(10.0)	0.0	(10.0)	0.7
BP 38										
Approved	233.2	1,010.2	1,010.2	1,012.8	0.0	0.0	1,012.8	82.0	1,094.8	2.0
Request	203.6	1,024.4	1,024.4	1,018.5	0.0	0.0	1,018.5	82.0	1,100.5	1.8
Delta	(29.6)	14.2	14.2	5.7	0.0	0.0	5.7	0.0	5.7	(0.2)
BP 81										
Approved	6,534.7	572.9	572.9	413.5	0.0	0.0	413.5	33.5	447.0	59.9
Request	6,546.1	457.6	467.6	296.9	0.0	0.0	296.9	33.5	330.4	46.1
Delta	11.4	(115.3)	(105.3)	(116.6)	0.0	0.0	(116.6)	0.0	(116.6)	(13.8)
BP85			** *REPAIR->*	*146.6*						
Approved	19,093.2	2,085.7	2,086.4	1,355.2	0.0	0.0	1,355.2	109.8	1,465.0	205.8
Request	18,090.6	1,894.0	1,979.0	1,310.1	0.0	0.0	1,310.1	109.7	1,419.8	215.8
Delta	(1,002.6)	(191.7)	(107.4)	(45.1)	0.0	0.0	(45.1)	(0.1)	(45.2)	10.0
BP 91			** *REPAIR->*	*924.8*						
Approved	0.0	0.0	0.0	1,378.0	0.0	0.0	1,378.0	0.0	1,378.0	0.0
Request	0.0	0.0	0.0	1,134.3	0.0	0.0	1,134.3	0.0	1,134.3	0.0
Delta	0.0	0.0	0.0	(243.7)	0.0	0.0	(243.7)	0.0	(243.7)	0.0
TOTAL										
Approved	29,037.5	5,349.7	5,344.0	5,762.2	0.0	0.0	5,762.2	355.2	6,117.4	304.8
Request	28,095.8	4,815.5	4,945.0	5,179.4	0.0	0.0	5,179.4	355.1	5,534.5	294.9
Delta	(941.7)	(534.2)	(399.0)	(582.8)	0.0	0.0	(582.8)	(0.1)	(582.9)	(9.9)

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SM1-99PRESBUD

SUPPLY MANAGEMENT ACTIVITY GROUP
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 14

FY1997

WEAPON SYSTEM	BASIC REPLEN	OUTFITTING	STOCK	SPECIAL PROGRAMS	TOTAL SM-3B
8422 HOE	4.0	0.0	0.1	0.0	4.1
8423 HOE	9.8	0.0	0.7	0.0	10.5
AEGIS/VLS	0.4	0.3	0.0	0.0	0.7
AIR MISSILES	0.0	0.0	0.0	0.9	0.9
AIR TRAFFIC CONTROL	0.1	0.0	0.0	0.0	0.1
AIR/AIR & AIR/GROUND MISSILES	2.6	0.0	0.0	0.0	2.6
AUXILIARY	0.4	0.0	0.0	0.0	0.4
CARPER	0.0	0.0	0.0	2.4	2.4
CIWS/CEC	1.9	0.2	0.2	2.0	4.3
CODE 87 - NUCLEAR	11.0	9.1	3.5	1.3	24.9
DC & DECK	8.0	0.0	0.0	21.9	29.9
DSSP	0.4	0.2	0.3	0.0	0.9
ELECTRICAL	0.2	0.0	0.0	0.0	0.2
EXCOMM	0.1	0.0	0.0	0.0	0.1
GAS & STEAM PROP	0.1	0.0	0.0	0.0	0.1
GPETE/CAL STD	0.0	1.4	0.0	0.0	1.4
GUNS/HANDLING EQUIP	1.7	0.0	0.0	0.0	1.7
HELO LAND SYS	0.1	0.0	0.0	0.0	0.1
INTERNAL/SHORE COMM	0.1	0.0	0.0	0.0	0.1
MINEWARFARE	0.4	0.0	0.0	0.1	0.5
MISC LOW DOLLAR PROGRAMS	0.0	0.0	0.0	2.6	2.6
MISC TEST EQUIP	1.2	0.0	0.0	0.0	1.2
NDI	0.9	0.0	0.0	0.0	0.9
OSI MAINTENANCE	0.0	0.0	0.0	1.9	1.9
SEA MISSILES	0.2	0.0	0.0	0.0	0.2
SPECWAR/EOD	0.9	0.0	0.0	0.0	0.9
SQQ-89	0.4	0.0	0.0	0.0	0.4
SUBSAFE/LEVEL I	8.0	0.1	0.1	0.0	8.2
SWS	0.1	0.0	0.0	0.0	0.1
TORPEDOES	0.4	0.0	0.0	0.0	0.4
TRNG DEV & EW	0.1	0.3	0.1	0.0	0.5
VALVES	0.2	0.0	0.0	0.0	0.2
GROSS REQUIREMENT	53.4	11.6	5.0	33.1	103.1
CONTRACT TERMS	-0.5	-0.1	0.0	-0.4	-1.0
CREDIT MODS	-1.0	-0.2	-0.1	-0.7	-2.0
DMRD	-4.9	-1.2	-0.5	-3.2	-9.8
ASSET APPLICATION	0.0	-2.6	-0.3	0.0	-2.9
PROVISIONING SELLDOWN	0.0	1.3	-1.3	0.0	0.0
NET REQUIREMENT	47.0	8.8	2.8	28.8	87.4

NAVY WORKING CAPITAL FUND
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 34

FY 1997

Weapon System	Operating Outfitting	Special Programs	Basic Replen	FY 1997 Total
A4		0.0	1.1	1.1
SUP EQUIP		0.0	25.9	25.9
HELOS		11.0	65.2	76.2
F14		0.0	34.8	34.8
P3		1.4	22.6	24.0
S3		1.0	9.1	10.1
A6/EA6		1.2	0.6	1.7
E2/C2		0.4	9.5	9.9
AV8		20.7	22.3	43.0
F/A18A		111.4	45.4	156.8
OTHER		4.0	12.2	16.2
TERM/CR MO				-42.8
CIT				-67.6
DMR SAVINGS				-37.6
TOTAL		151.1	248.6	251.7
SYSTEM STOCK:INITIAL FOLLOW-ON				10.9
OPERATING REQUIREMENT				262.6

NAVY WORKING CAPITAL FUND
SUPPLY MANAGEMENT ACTIVITY GROUP
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 81

FY1997

WEAPON SYSTEM	BASIC REPLEN	OUTFITTING	STOCK	SPECIAL PROGRAMS	REWORK	TOTAL SM-3B
.5 FLSIP+ COSAL	0.0	0.0	0.0	9.6	0.0	9.6
8422 HOE	3.7	0.8	1.4	3.6	14.0	23.6
8423 HOE	1.6	2.7	0.8	0.0	20.4	25.5
AEGIS/VLS	1.9	10.1	0.6	2.7	11.9	27.2
AIR MISSILES	0.2	0.0	0.0	1.6	0.8	2.6
AIR TRAFFIC CONTROL	3.5	0.2	0.1	0.0	7.9	11.7
AIR/AIR & AIR/GROUND MISSILE	0.9	0.0	0.0	0.1	0.9	1.9
AUXILIARY	3.2	0.0	0.0	1.5	3.4	8.1
BOSS III	0.0	0.0	0.0	14.6	0.0	14.6
CARPER	2.1	0.0	0.0	23.4	0.1	25.6
CIWS/CEC	3.8	5.3	2.5	3.6	8.1	23.4
CODE 87 - NUCLEAR	2.6	0.7	0.4	0.4	0.8	4.9
DC & DECK	0.4	0.0	0.0	0.4	1.0	1.8
DIESEL PROP	1.2	0.0	0.0	1.0	2.3	4.5
DSSP	1.8	1.0	1.1	0.0	0.7	4.6
DVD	0.0	0.0	0.0	1.1	0.5	1.6
ELECTRICAL	1.1	0.0	0.0	0.0	2.6	3.7
ERQ	0.0	0.0	0.0	0.0	0.7	0.7
EXCOMM	0.6	4.4	2.9	0.0	4.0	11.9
GAS & STEAM PROP	6.8	0.0	0.0	0.0	6.1	12.9
GPETE/CAL STD	0.1	22.6	0.0	0.0	0.3	23.0
GUNS/HANDLING EQUIP	0.8	1.2	0.6	0.0	3.4	6.0
H M & E PROVISIONING	0.0	0.5	1.0	0.0	0.0	1.5
HELO LAND SYS	0.3	0.2	0.0	0.0	1.1	1.6
INTERNAL/SHORE COMM	0.9	0.3	0.3	0.0	1.5	3.0
LM 2500	1.6	0.0	0.0	0.8	7.3	9.7
LOADLIST	0.0	0.0	0.0	4.5	0.0	4.5
MINEWARFARE	5.1	6.9	0.5	0.8	7.0	20.3
MISC LOW DOLLAR PROGRAMS	0.0	0.0	0.0	0.9	0.0	0.9
MISC TEST EQUIP	0.1	0.0	0.0	0.0	0.4	0.5
MSC & CG	0.4	0.0	0.0	0.0	0.4	0.8
NAVIGATION/ATC	0.3	0.0	0.0	0.0	2.9	3.2
NDI	0.2	0.0	0.0	0.0	0.0	0.2
NSO	0.0	0.0	0.0	0.1	0.0	0.1
OOD	0.4	0.0	0.0	0.0	0.2	0.6
OSI MAINTENANCE	0.0	0.0	0.0	8.5	0.0	8.5
RADARS & SONARS	0.5	0.9	0.1	0.0	5.5	7.0
RADIAC	0.0	0.0	0.0	0.0	0.4	0.4
SATCOM/CFEE AN/USC-38	1.6	8.0	2.8	0.0	0.6	13.0
SATCOM/CFEE OTHER	1.0	0.8	1.1	0.0	3.0	5.9
SEA MISSILES	0.2	0.0	0.0	0.1	5.2	5.6
SHIPALT	0.0	0.0	0.0	2.1	0.0	2.1
SPECWAR/EOD	0.8	0.0	2.6	0.0	1.9	5.3

NAVY WORKING CAPITAL FUND
SUPPLY MANAGEMENT ACTIVITY GROUP
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 81

FY1997

WEAPON SYSTEM	BASIC REPLEN	OUTFITTING	STOCK	SPECIAL PROGRAMS	REWORK	TOTAL SM-3B
SQQ-89	1.3	0.7	0.4	0.3	2.1	4.8
				0.0	0.0	
SSPL	0.0	0.0	0.0	1.6	0.0	1.6
SUBSAFE/LEVEL I	3.3	0.0	0.2	0.0	1.7	5.2
SURVEILLANCE	0.6	0.5	0.7	0.0	3.2	5.0
TACTICAL COMPUTERS	0.3	1.2	0.3	0.0	2.6	4.4
TACTICAL DISPLAYS $ PERIPHS	0.3	1.5	0.7	0.0	4.4	6.9
TECH REFERRALS	0.0	0.0	0.0	1.0	0.0	1.0
TERRIER/TARTAR/NSSM/TAS/RA	1.0	0.1	0.0	0.0	5.7	6.8
TOMAHAWK	0.0	0.4	0.3	0.4	0.3	1.4
TORPEDOES	0.3	0.0	0.0	0.0	2.8	3.1
TRF LOADLIST	0.0	0.0	0.0	1.5	0.0	1.5
TRNG DEV & EW	0.6	2.4	0.3	0.0	2.7	6.0
VALVES	1.6	0.0	0.0	0.0	2.6	4.2
GROSS REQUIREMENT	59.0	73.4	21.7	86.4	155.6	396.1
CREDIT MOD	-3.7	-4.5	-1.4	-5.4	-9.0	-24.0
CONT TERM	-6.4	-7.4	-2.2	-9.0	0.0	-25.0
ASSET APPLICATIONS	0.0	-12.7	-3.5	0.0	0.0	-16.2
DMRD 971	-8.0	-11.5	-3.4	-11.1	0.0	-34.0
PROVISIONING SELLDOWN	0.0	3.5	-3.5	0.0	0.0	0.0
NET REQUIREMENT	40.9	40.8	7.7	60.9	146.6	296.9

NAVY WORKING CAPITAL FUND
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 85

FY 1997

Weapon System	Buy In Outfitting	Special Programs	Basic Replen	Repair	Total
A-4	0.0	0.0	0.8	4.8	5.6
SUPPT EQUIPMT	29.1	0.0	4.3	17.0	50.4
HELOS	37.7	0.0	33.1	287.5	358.3
F-14	33.3	3.6	18.3	75.9	131.0
P-3	13.9	10.6	6.9	72.2	103.6
S-3	8.2	0.0	8.2	43.8	60.1
A-6/EA-6	27.8	10.3	5.7	21.8	65.7
E2/C2	47.6	0.0	8.2	42.3	98.2
AV8	20.4	0.0	4.6	37.6	62.6
F/A18	73.5	22.2	21.3	281.5	398.6
COMMON A/C & AVIONICS	32.5	0.0	8.9	65.7	107.1
TERM/CR MODS	-5.0	0.0	-56.0	0.0	-61.0
DMR SAVINGS	-3.0	0.0	-95.8	-25.3	-124.1
REDUCTIONS FOR EFFICIENCES	-49.8	0.0	0.0	0.0	-49.8
LECP'S INVESTMENT/SAVINGS	0.0	0.0	89.1	0.0	89.1
TOTAL	266.2	46.7	57.7	924.8	1295.4
SYSTEM STOCK: INITIAL/FOLLOW-ON					14.7
OPERATING REQUIREMENT					1310.1

SUPPLY MANAGEMENT ACTIVITY GROUP
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 14

FY1998

WEAPON SYSTEM	BASIC REPLEN	OUTFITTING	STOCK	SPECIAL PROGRAMS	TOTAL SM-3B
8422 HOE	3.8	0.0	0.0	0.5	4.3
8423 HOE	10.4	0.0	0.0	0.0	10.4
AEGIS/VLS	0.4	0.1	0.0	0.0	0.5
AIR TRAFFIC CONTROL	0.1	0.0	0.0	0.0	0.1
AIR/AIR & AIR/GROUND MISSILE	2.6	0.0	0.0	0.0	2.6
AUXILIARY	0.3	0.0	0.0	0.0	0.3
BSY-1 HULL PENETRATOR	0.0	0.0	0.0	0.5	0.5
CIWS/CEC	1.9	0.1	0.1	1.5	3.6
CODE 87 - NUCLEAR	13.1	7.4	2.8	2.7	26.0
DC & DECK	7.8	0.0	0.0	23.8	31.6
DIESEL PROP	0.1	0.0	0.0	0.0	0.1
DSSP	0.4	0.1	0.7	0.0	1.2
ELECTRICAL	0.2	0.0	0.0	0.0	0.2
EXCOMM	0.1	0.0	0.0	0.0	0.1
GAS & STEAM PROP	0.1	0.0	0.0	0.0	0.1
GPETE/CAL STD	0.0	2.6	0.0	0.0	2.6
GUNS/HANDLING EQUIP	1.6	0.0	0.0	0.0	1.6
HELO LAND SYS	0.1	0.0	0.0	0.0	0.1
INTERNAL/SHORE COMM	0.1	0.0	0.0	0.0	0.1
MINEWARFARE	0.4	0.0	0.0	0.0	0.4
MISC LOW DOLLAR PROGRAMS	0.0	0.0	0.1	1.0	1.1
MISC TEST EQUIP	1.1	0.0	0.0	0.0	1.1
NDI	2.8	0.0	0.0	0.0	2.8
NSO	0.0	0.0	0.0	1.3	1.3
OSI MAINTENANCE	0.0	0.0	0.0	1.6	1.6
SEA MISSILES	0.2	0.0	0.0	0.0	0.2
SEOC	0.0	0.0	0.0	1.0	1.0
SPECWAR/EOD	0.8	0.0	0.3	0.0	1.1
SQQ-89	0.3	0.0	0.0	0.0	0.3
SSPL	0.0	0.0	0.0	0.5	0.5
SUBSAFE/LEVEL I	10.2	0.1	0.1	0.0	10.4
SWS	0.1	0.0	0.0	0.0	0.1
TORPEDOES	0.4	0.0	0.0	0.0	0.4
TRF LOADLIST	0.0	0.0	0.0	1.0	1.0
VALVES	0.1	0.0	0.0	0.0	0.1
GROSS REQUIREMENT	59.5	10.4	4.1	35.4	109.4
CONTRACT TERMS	-0.5	-0.1	0.0	-0.4	-1.0
CREDIT MODS	-0.5	-0.1	0.0	-0.4	-1.0
ASSET APPLICATION	0.0	-2.1	0.0	0.0	-2.1
BOSS	-1.5	-0.2	-0.1	-1.0	-2.8
REDUCTIONS FOR EFFICIENCY	0.0	0.0	0.0	-1.1	-1.1
PROVISIONING SELLDOWN	0.0	1.2	-1.2	0.0	0.0
NET REQUIREMENT	57.0	9.1	2.8	32.5	101.4

NAVY WORKING CAPITAL FUND
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 34

FY 1998

Weapon System	Operating Outfitting	Special Programs	Basic Replen	FY 1998 Total
A4		0.0	1.8	1.8
SUP EQUIP		0.0	41.9	41.9
HELOS		1.3	105.3	106.6
F14		0.0	56.2	56.2
P3		0.0	36.6	36.6
S3		5.9	14.6	20.5
A6/EA6		0.0	0.9	0.9
E2/D2		1.4	15.3	16.6
AV8		2.1	36.0	38.2
F/A18A		40.0	73.3	113.3
OTHER		34.0	20.2	54.2
TERM/CR MO				-17.2
CIT				-104.7
TOTAL		84.8	401.6	364.9
SYSTEM STOCK:INITIAL FOLLOW-ON				8.6
OPERATING REQUIREMENT				373.5

SUPPLY MANAGEMENT ACTIVITY GROUP
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 81

FY1998

WEAPON SYSTEM	BASIC REPLEN	OUTFITTING	STOCK	SPECIAL PROGRAMS	REWORK	TOTAL SM-3B
.5FLSIP+ COSAL	0.0	0.0	0.0	11.3	0.0	11.3
8422 HOE	5.1	1.3	1.2	0.1	18.7	26.4
8423 HOE	2.3	2.2	0.6	1.0	28.0	34.1
AEGIS/VLS	2.6	5.1	6.7	5.2	15.6	35.2
AIR MISSILES	0.2	0.0	0.0	0.0	1.0	1.2
AIR TRAFFIC CONTROL	5.7	0.5	0.4	0.0	10.3	16.9
AIR/AIR & AIR/GROUND MISSILE	1.3	0.0	0.3	3.9	1.1	6.6
AUXILIARY	4.6	0.0	0.0	0.0	5.1	9.7
BOSS III	0.0	0.0	0.0	20.0	0.0	20.0
CARPER	2.9	0.0	0.0	15.5	0.1	18.5
CEC	0.0	1.3	0.0	0.0	0.0	1.3
CIWS/CEC	5.8	3.5	2.2	4.8	10.6	26.9
CODE 87 - NUCLEAR	2.9	0.6	0.3	0.5	1.0	5.3
CVN-68 CLASS FOSS	0.0	0.0	0.1	0.0	0.0	0.1
DC & DECK	0.5	0.0	0.0	0.3	1.2	2.0
DDG 51 CLASS FOSS	0.0	0.0	0.9	0.0	0.0	0.9
DIESEL PROP	1.6	0.0	0.0	1.5	4.0	7.1
DSSP	2.5	0.5	3.4	0.0	0.8	7.2
DVD	0.0	0.0	0.0	15.0	12.7	27.7
ELECTRICAL	1.6	0.0	0.0	0.0	3.4	5.0
ERQ	0.0	0.0	0.0	0.0	10.0	10.0
EXCOMM	0.9	1.8	0.1	1.5	5.2	9.5
FMS REPAIR/REPLACE	0.0	0.0	0.0	0.0	0.9	0.9
GAS & STEAM PROP	9.8	0.0	0.0	0.0	7.9	17.7
GPETE/CAL STD	0.3	24.4	0.0	0.0	0.4	25.1
GUNS/HANDLING EQUIP	1.2	1.4	1.2	0.0	4.5	8.3
H M & E PROVISIONING	0.0	0.5	1.1	0.0	0.0	1.6
HELO LAND SYS	0.4	0.2	0.0	0.0	3.1	3.7
INTERNAL/SHORE COMM	1.3	0.1	0.1	0.0	1.9	3.4
LM 2500	2.2	0.0	0.0	1.9	9.4	13.5
LOADLIST	0.0	0.0	0.0	3.6	0.0	3.6
MHC 51 CLASS FOSS	0.0	0.0	0.4	0.0	0.0	0.4
MINEWARFARE	7.2	1.0	1.5	0.0	9.2	18.9
MISC LOW DOLLAR PROGRAMS	0.0	0.0	0.0	0.7	0.0	0.7
MISC TEST EQUIP	0.1	0.0	0.0	0.0	0.5	0.6
MSC & CG	0.5	0.0	0.0	0.0	0.6	1.1
NAVIGATION/ATC	0.4	2.1	0.9	0.0	3.8	7.2
NDI	0.6	0.1	0.0	0.0	0.0	0.7
NSO	0.0	0.0	0.0	12.9	0.0	12.9
OOD	0.5	0.0	0.0	0.0	0.3	0.8
OSI MAINTENANCE	0.0	0.0	0.0	13.2	0.0	13.2
RADARS & SONARS	0.7	0.4	0.1	0.0	7.2	8.4
RADIAC	0.0	0.0	0.3	0.0	0.5	0.8
SATCOM/CFEE AN/USC-38	2.5	2.3	2.8	0.0	0.8	8.4
SATCOM/CFEE OTHER	1.6	0.4	0.8	0.0	4.0	6.8

OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 81

FY1998

WEAPON SYSTEM	BASIC REPLEN	OUTFITTING	STOCK	SPECIAL PROGRAMS	REWORK	TOTAL SM-3B
SEA MISSILES	0.2	0.0	0.0	0.0	6.8	7.0
SHIPALT	0.0	0.0	0.0	3.7	0.0	3.7
SPECWAR/EOD	1.1	0.0	5.0	0.0	2.5	8.6
SQQ-89	1.8	2.6	0.3	0.7	2.7	8.1
SSPL	0.0	0.0	0.0	2.5	0.0	2.5
SUBSAFE/LEVEL I	4.6	0.0	0.2	0.0	2.2	7.0
SURVEILLANCE	0.8	1.0	1.1	0.0	4.2	7.1
TACTICAL COMPUTERS	0.5	1.5	0.0	0.0	3.4	5.4
TACTICAL DISPLAYS $ PERIPHS	0.4	0.7	0.3	0.0	5.8	7.2
TECH REFERRAL	0.0	0.0	0.0	1.5	0.0	1.5
TERRIER/TARTAR/NSSM/TAS/RA	1.4	1.1	1.0	0.3	7.4	11.2
TOMAHAWK	0.0	1.2	0.8	0.0	0.4	2.4
TORPEDOES	0.4	0.0	0.8	0.0	3.7	4.9
TRF LOADLIST	0.0	0.0	0.0	2.5	0.0	2.5
TRNG DEV & EW	0.8	1.9	0.3	0.0	3.5	6.5
VALVES	2.3	0.0	0.0	0.0	3.5	5.8
GROSS REQUIREMENT	84.1	59.7	35.2	124.1	229.9	533.0
CREDIT MOD	-3.6	-2.3	-1.4	-2.7	-5.0	-15.0
CONT TERM	-3.6	-2.3	-1.4	-2.7	0.0	-10.0
BOSS	-2.2	-1.4	-0.9	-1.6	0.0	-6.1
PR99	-3.4	0.0	0.0	-2.2	0.0	-5.6
ASSET APPLICATION	0.0	-6.7	-2.9	0.0	0.0	-9.6
REDUCTIONS FOR EFFICIENCY	-11.3	-14.8	-4.0	-37.6	-3.3	-71.0
PROVISIONING SELLDOWN	0.0	7.6	-7.6	0.0	0.0	0.0
NET REQUIREMENT	60.0	39.8	17.0	77.3	221.6	415.7

NAVY WORKING CAPITAL FUND
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 85

FY 1998

Weapon System	Buy In Outfitting	Special Programs	Basic Replen	Repair	Total
A-4	0.0	0.0	0.7	7.1	7.8
SUPPT EQUIPMT	20.7	0.0	5.1	20.2	46.0
HELOS	24.9	47.3	42.5	278.0	392.8
F-14	23.3	5.2	21.7	90.6	140.9
P-3	9.0	5.1	8.8	84.1	107.0
S-3	5.8	0.0	9.0	51.9	66.7
A-6/EA-6	11.2	1.5	6.9	27.1	46.7
E2/C2	28.2	0.0	9.4	48.9	86.6
AV8	34.7	0.0	5.5	34.3	74.5
F/A18	121.6	26.0	28.0	278.7	454.4
COMMON A/C & AVIONICS	88.9	0.0	7.0	89.4	185.3
TERM/CR MODS	-5.0	0.0	-6.1	0.0	-11.1
REDUCTIONS FOR EFFICIENCES	-53.0	0.0	0.0	0.0	-53.0
COMPETITION SAVINGS	0.0	0.0	-13.3	0.0	-13.3
LECP'S INVESTMENT/SAVINGS	0.0	0.0	90.2	-19.1	71.1
TOTAL	310.4	85.1	215.7	991.2	1602.4
SYSTEM STOCK: INITIAL/FOLLOW-ON					35.8
OPERATING REQUIREMENT					1638.2

SUPPLY MANAGEMENT ACTIVITY GROUP
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 14

FY1999

WEAPON SYSTEM	BASIC REPLEN	OUTFITTING	STOCK	SPECIAL PROGRAMS	TOTAL SM-3B
8422 HOE	3.9	0.0	0.0	0.8	4.7
8423 HOE	12.7	0.0	0.0	0.0	12.7
AEGIS/VLS	0.8	0.1	0.0	0.0	0.9
AIR/AIR & AIR/GROUND MISSILE	1.5	0.0	0.0	0.0	1.5
AUXILIARY	0.3	0.0	0.0	0.0	0.3
CIWS/CEC	2.9	0.0	0.1	1.0	4.0
CODE 87 - NUCLEAR	13.2	7.2	2.2	1.3	23.9
DC & DECK	7.6	0.0	0.0	20.4	28.0
DIESEL PROP	0.1	0.0	0.0	0.0	0.1
DSSP	0.4	0.1	0.6	0.0	1.1
ELECTRICAL	0.3	0.0	0.0	0.0	0.3
EXCOMM	0.3	0.0	0.0	0.0	0.3
GAS & STEAM PROP	0.1	0.0	0.0	0.0	0.1
GPETE/CAL STD	0.0	1.3	0.0	0.0	1.3
GUNS/HANDLING EQUIP	1.8	0.0	0.0	0.0	1.8
HELO LAND SYS	0.2	0.0	0.0	0.0	0.2
INTERNAL/SHORE COMM	0.1	0.0	0.0	0.0	0.1
LM 2500	0.1	0.0	0.0	0.0	0.1
LOADLIST	0.0	0.0	0.0	0.8	0.8
MINEWARFARE	0.5	0.0	0.0	0.0	0.5
MISC LOW DOLLAR PROGRAMS	0.0	0.0	0.0	0.1	0.1
MISC TEST EQUIP	1.9	0.0	0.0	0.0	1.9
NSO	0.0	0.0	0.0	0.7	0.7
OSI MAINTENANCE	0.0	0.0	0.0	1.6	1.6
SEA MISSILES	0.2	0.0	0.0	0.0	0.2
SEOC	0.0	0.0	0.0	1.1	1.1
SPECWAR/EOD	1.3	0.0	0.1	0.0	1.4
SQQ-89	0.5	0.0	0.0	0.0	0.5
SSPL	0.0	0.0	0.0	0.5	0.5
SUBSAFE/LEVEL I	9.8	0.1	0.1	0.0	10.0
SWS	0.1	0.0	0.0	0.0	0.1
TACTICAL DISPLAYS $ PERIPHS	0.1	0.0	0.0	0.0	0.1
TERRIER/TARTAR/NSSM/TAS/R	0.1	0.0	0.0	0.0	0.1
TORPEDOES	1.0	0.0	0.0	0.0	1.0
TRANSPORTATION	4.0	0.0	0.0	0.0	4.0
TRF LOADLIST	0.0	0.0	0.0	1.0	1.0
TRNG DEV & EW	0.1	0.0	0.0	0.0	0.1
VALVES	0.2	0.0	0.0	0.0	0.2
GROSS REQUIREMENT	66.1	8.8	3.1	29.3	107.3
CONTRACT TERMS	-0.3	0.0	0.0	-0.2	-0.5
ASSET APPLICATION	0.0	-2.1	-0.1	0.0	-2.2
REDUCTIONS FOR EFFICIENCY	-0.3	0.0	0.0	-0.5	-0.8
PROVISIONING SELLDOWN	0.0	1.0	-1.0	0.0	0.0
NET REQUIREMENT	65.5	7.7	2.0	28.6	103.8

NAVY WORKING CAPITAL FUND
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 34

FY 1999

Weapon System	Operating Outfitting	Special Programs	Basic Replen	FY 1999 Total
A4		0.0	1.4	1.4
SUP EQUIP		0.0	32.4	32.4
HELOS		0.4	81.5	82.0
F14		0.0	43.5	43.5
P3		0.0	28.3	28.3
S3		5.8	11.3	17.0
A6/EA6		0.0	0.7	0.7
E2/D2		0.0	11.8	11.8
AV8		0.0	27.9	27.9
F/A18A		7.0	56.8	63.8
OTHER		37.0	14.2	51.2
TERM/CR MO				-3.5
CIT				-106.9
TOTAL		50.2	310.0	249.8
SYSTEM STOCK:INITIAL FOLLOW-ON				5.8
OPERATING REQUIREMENT				255.6

SUPPLY MANAGEMENT ACTIVITY GROUP
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 81

FY1999

WEAPON SYSTEM	BASIC REPLEN	OUTFITTING	STOCK	SPECIAL PROGRAMS	REWORK	TOTAL SM-3B
.5FLSIP+ COSAL	0.0	0.0	0.0	11.3	0.0	11.3
8422 HOE	5.2	1.1	0.7	0.0	21.2	28.2
8423 HOE	2.0	0.6	0.1	1.0	27.5	31.2
AEGIS/VLS	3.0	9.6	7.2	0.0	17.9	37.7
AIR MISSILES	0.3	0.0	0.0	0.0	1.0	1.3
AIR TRAFFIC CONTROL	5.9	0.7	0.3	0.0	10.9	17.8
AIR/AIR & AIR/GROUND MISSILES	0.3	0.0	0.0	0.0	1.0	1.3
AUXILIARY	5.1	0.0	0.0	0.0	5.3	10.4
BOSS III	0.0	0.0	0.0	15.0	0.0	15.0
CARPER	0.2	0.0	0.0	0.0	0.2	0.4
CEC	0.0	4.0	0.3	0.0	0.0	4.3
CIWS/CEC	4.6	1.8	0.8	3.3	10.5	21.0
CODE 87 - NUCLEAR	3.0	0.5	0.2	0.5	1.0	5.2
DC & DECK	0.6	0.0	0.0	1.1	1.3	3.0
DDG 51 CLASS FOSS	0.0	0.0	0.6	0.0	0.0	0.6
DIESEL PROP	1.2	0.0	0.0	1.5	3.9	6.6
DSSP	2.2	0.6	2.8	0.0	0.9	6.5
DVD	0.0	0.0	0.0	15.0	12.7	27.7
ELECTRICAL	1.2	0.0	0.0	0.0	3.4	4.6
ERQ	0.0	0.0	0.0	0.0	9.7	9.7
EXCOMM	1.2	4.0	1.7	0.0	5.7	12.6
FMS REPAIR/REPLACE	0.0	0.0	0.0	0.0	0.8	0.8
GAS & STEAM PROP	8.1	0.0	0.0	0.0	7.7	15.8
GPETE/CAL STD	0.4	23.7	0.0	0.0	0.5	24.6
GUNS/HANDLING EQUIP	0.5	1.9	0.2	0.0	5.1	7.7
H M & E PROVISIONING	0.0	0.4	1.1	0.0	0.0	1.5
HELO LAND SYS	0.1	0.2	0.0	0.0	2.6	2.9
INTERNAL/SHORE COMM	3.9	0.1	0.2	0.0	2.3	6.5
LM 2500	2.2	0.0	0.0	0.6	10.6	13.4
LOADLIST	0.0	0.0	0.0	6.9	0.0	6.9
MINEWARFARE	5.6	0.7	0.5	0.0	9.3	16.1
MISC LOW DOLLAR PROGRAMS	0.0	0.0	0.0	0.8	0.0	0.8
MISC TEST EQUIP	0.2	0.0	0.0	0.0	0.5	0.7
MSC & CG	0.2	0.0	0.0	0.0	0.6	0.8
NAVIGATION/ATC	0.1	3.3	0.0	0.0	3.5	6.9
NDI	0.5	0.0	0.0	0.0	0.0	0.5
NSO	0.0	0.0	0.0	12.7	0.0	12.7
OOD	0.8	0.0	0.0	0.0	0.4	1.2
OSI MAINTENANCE	0.0	0.0	0.0	12.4	0.0	12.4
RADARS & SONARS	1.0	0.2	1.0	0.0	7.6	9.8
RADIAC	0.0	0.0	0.0	0.0	0.5	0.5
SATCOM/CFEE AN/USC-38	0.2	2.7	2.8	0.0	0.7	6.4
SATCOM/CFEE OTHER	3.0	1.5	0.4	0.0	4.6	9.5
SEA MISSILES	0.3	0.0	0.0	0.0	7.0	7.3
SHIPALT	0.0	0.0	0.0	3.4	0.0	3.4
SPECWAR/EOD	1.9	0.1	1.6	0.0	2.5	6.1

OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)

BUDGET PROJECT 81

FY1999

WEAPON SYSTEM	BASIC REPLEN	OUTFITTING	STOCK	SPECIAL PROGRAMS	REWORK	TOTAL SM-3B
SQQ-89	1.6	3.7	0.4	0.0	2.8	8.5
SSPL	0.0	0.0	0.0	2.5	0.0	2.5
SUBSAFE/LEVEL I	4.9	0.0	0.2	0.0	2.1	7.2
SURVEILLANCE	1.2	1.4	1.1	0.0	4.2	7.9
TACTICAL COMPUTERS	1.1	2.6	0.1	0.0	4.1	7.9
TACTICAL DISPLAYS $ PERIPHS	0.7	0.6	0.2	0.0	7.0	8.5
TECH REFERRALS	0.0	0.0	0.0	1.5	0.0	1.5
TERRIER/TARTAR/NSSM/TAS/RAM	1.1	1.9	0.7	0.0	9.0	12.7
TOMAHAWK	0.0	0.6	1.9	0.0	0.4	2.9
TORPEDOES	0.8	0.1	0.1	0.0	4.5	5.5
TRF LOADLIST	0.0	0.0	0.0	2.5	0.0	2.5
TRNG DEV & EW	1.0	2.1	2.3	0.0	4.0	9.4
VALVES	1.8	0.0	0.0	0.0	3.6	5.4
GROSS REQUIREMENT	79.2	70.7	29.5	92.0	242.6	514.0
CREDIT MOD	-1.7	-1.5	-0.6	-1.2	-5.0	-10.0
CONT TERM	-1.8	-1.4	-0.6	-1.2	0.0	-5.0
TRANSPORTATION	13.6	0.0	0.0	0.0	9.5	23.1
PR99	-8.3	0.0	0.0	-1.6	-1.9	-11.8
ASSET APPLICATION	0.0	-11.5	-3.9	0.0	0.0	-15.4
REDUCTIONS FOR EFFICIENCY	-16.8	-16.5	-4.5	-27.7	-3.8	-69.3
PROVISIONING SELLDOWN	0.0	6.1	-6.1	0.0	0.0	0.0
NET REQUIREMENT	64.2	45.9	13.8	60.3	241.4	425.6

NAVY WORKING CAPITAL FUND
OPERATING OBLIGATIONS BY WEAPON SYSTEM ($M)
BUDGET PROJECT 85

FY 1999

Weapon System	Buy In Outfitting	Special Programs	Basic Replen	Repair	Total
A-4	0.0	0.0	0.1	6.9	7.0
SUPPT EQUIPMT	28.5	0.0	0.7	23.8	53.0
HELOS	20.6	21.0	5.7	304.7	351.9
F-14	7.4	0.0	2.9	102.0	112.3
P-3	14.3	5.3	1.2	92.0	112.8
S-3	3.5	0.0	1.2	58.6	63.2
A-6/EA-6	0.0	0.0	0.9	30.3	31.2
E2/C2	41.0	0.0	1.2	55.4	97.6
AV8	10.1	0.0	0.7	37.2	48.0
F/A18	81.9	21.1	3.6	308.1	414.7
COMMON A/C & AVIONICS	53.1	0.0	1.4	100.1	154.6
TERM/CR MODS	0.0	0.0	-12.0	0.0	-12.0
REDUCTIONS FOR EFFICIENCES	-36.0	0.0	0.0	0.0	-36.0
LECP'S INVESTMENT/SAVINGS			90.4	-26.2	64.2
TOTAL	224.3	47.5	98.0	1092.9	1462.6
SYSTEM STOCK: INITIAL/FOLLOW-ON					22.6
OPERATING REQUIREMENT					1485.2

Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project SUMMARY
(Dollars in Millions)
FY1997

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	28,691.9	233.2	11,478.5	16,980.2
2. BOP INVENTORY ADJUSTMENTS	1,599.7	8.0	2,505.0	(913.3)
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	1,886.9	(1,886.9)
B PRICE CHANGE AMOUNT (memo)	1,599.7	8.0	618.1	973.6
C INVENTORY RECLASSIFIED AND REPRICED	30,291.6	241.2	13,983.5	16,066.9
3 RECEIPTS AT STANDARD	3,571.4	4.9	3,594.6	(28.1)
4 SALES AT STANDARD	5,239.9	0.0	5,239.9	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	(475.9)	(0.0)	(1.8)	(474.1)
B RETURNS FROM CUSTOMERS FOR CREDIT	294.9	0.1	263.4	31.4
C RETURNS FROM CUSTOMERS NO CREDIT	10,604.9	0.1	4,005.2	6,599.6
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	
E TRANSFERS TO PROP DISPOSAL (-)	(4,301.0)	0.0	(0.4)	(4,300.6)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(916.5)	(0.0)	(229.1)	(687.4)
G OTHER (listed in Section 9)	(5,516.6)	(29.1)	(4,727.5)	(760.0)
H TOTAL ADJUSTMENTS	(310.2)	(29.0)	(690.2)	408.9
6. INVENTORY EOP	28,312.9	217.1	11,648.1	16,447.7
7. INVENTORY EOP (REVALUED)	18,266.3	165.2	8,662.2	9,438.9
A. APPROVED ACQUISITION OBJECTIVE (memo)				5,803.2
B ECONOMIC RETENTION (memo)				2,229.7
C. CONTINGENCY RETENTION (memo)				1,325.0
D. POTENTIAL DOD REUTILIZATION (memo)				81.0
8. INVENTORY ON ORDER EOP (memo)	1,608.1	0.0	1,467.1	141.0

9. NARRATIVE:

Other adjustments (total posted to line 5g):				
Other Gains/Losses	(525.9)	0.0	(508.2)	(17.7)
Strata Transfers	0.0	(30.9)	771.3	(740.4)
Net/Standard Difference	(4,997.0)	0.0	(4,997.0)	0.0
Standard Price Difference (Net)	6.3	1.8	6.4	(1.9)
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(5,516.6)	(29.1)	(4,727.5)	(760.0)

Prepared 1/14/98

Department of Navy Supply Mangement SM-4

INVENTORY STATUS

Budget Project 14

(Dollars in Millions)

FY 1997

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	868 7	1 2	273 6	593 9
2. BOP INVENTORY ADJUSTMENTS	107 8	0 1	31 6	76 1
A. RECLASSIFICATION CHANGE (memo)	0 0	0 0	2 7	(2 7)
B PRICE CHANGE AMOUNT (memo)	107 8	0 1	28 9	78 8
C INVENTORY RECLASSIFIED AND REPRICED	976 5	1 3	305 2	670 0
3 RECEIPTS AT STANDARD	101 8	0 0	101.7	0 1
4 SALES AT STANDARD	108 7	0 0	108 7	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	(35 0)	0 0	(10 9)	(24 1)
B RETURNS FROM CUSTOMERS FOR CREDIT	2 6	0 0	1 9	0 7
C RETURNS FROM CUSTOMERS, NO CREDIT	72 5	0 0	0.0	72.5
D RETURNS TO SUPPLIERS (-)	0 0	0.0	0.0	
E TRANSFERS TO PROP DISPOSAL (-)	(102 0)	0 0	0 0	(102.0)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(16 3)	0.0	(5 1)	(11.2)
G. OTHER (listed in Section 9)	7.6	(0.9)	(14.8)	23.3
H. TOTAL ADJUSTMENTS	(70.6)	(0.9)	(28.9)	(40.8)
6. INVENTORY EOP	899.0	0.4	269.3	629.3
7. INVENTORY EOP (REVALUED)	630.2	0.3	220.8	409.0
A. APPROVED ACQUISITION OBJECTIVE (memo)				156.3
B. ECONOMIC RETENTION (memo)				130 9
C. CONTINGENCY RETENTION (memo)				118.2
D. POTENTIAL DOD REUTILIZATION (memo)				3.7
8. INVENTORY ON ORDER EOP (memo)	106.8	0.0	106.8	0.0

9. NARRATIVE:

Other adjustments (total posted to line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	7 6	0 0	2 6	5 0
Strata Transfers	0 0	(0 9)	(17 4)	18 3
Net/standard Difference	0 0	0 0	0 0	0 0
	0 0	0.0	0 0	0 0
	0 0	0.0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	7.6	(0.9)	(14.8)	23.3

Prepared 1/12/98

Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 15
(Dollars in Millions)
FY1997

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	20.6	0.3	7.0	13.3
2. BOP INVENTORY ADJUSTMENTS	0.0	0.0	1.6	(1.6)
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	1.6	(1.6)
B PRICE CHANGE AMOUNT (memo)	0.0	0.0	0.0	0.0
C INVENTORY RECLASSIFIED AND REPRICED	20.6	0.3	8.6	11.7
3 RECEIPTS AT STANDARD	6.9	0.0	7.0	(0.1)
4 SALES AT STANDARD	7.3	0.0	7.3	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0.0	0.0	0.0	0.0
B RETURNS FROM CUSTOMERS FOR CREDIT	0.0	0.0	0.0	0.0
C RETURNS FROM CUSTOMERS, NO CREDIT	1.1	0.0	0.0	1.1
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E TRANSFERS TO PROP DISPOSAL (-)	0.0	0.0	0.0	0.0
F. ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G OTHER (listed in Section 9)	(0.1)	0.0	0.1	(0.2)
H TOTAL ADJUSTMENTS	1.0	0.0	0.1	0.9
6 INVENTORY EOP	21.2	0.3	8.4	12.5
7. INVENTORY EOP (REVALUED)	8.5	0.0	0.0	8.5
A APPROVED ACQUISITION OBJECTIVE (memo)				8.3
B ECONOMIC RETENTION (memo)				0.2
C. CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				0.0
8 INVENTORY ON ORDER EOP (memo)	1.3	0.0	1.3	0.0
9 NARRATIVE.				

Other adjustments (total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	0.1	0.0	0.0	0.1
Strata Transfers	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Net/standard Difference	(0.2)	0.0	0.1	(0.3)
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(0.1)	0.0	0.1	(0.2)

Prepared 1/13/98

Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 21
(Dollars in Millions)
FY1997

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	32 3	0 0	32 3	0 0
2 BOP INVENTORY ADJUSTMENTS	0 0	0 0	0 0	0 0
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	0 0	0 0
B PRICE CHANGE AMOUNT (memo)	0 0	0 0	0 0	0.0
C INVENTORY RECLASSIFIED AND REPRICED	32 3	0 0	32 3	0 0
3 RECEIPTS AT STANDARD	90 5	0 0	90 5	0 0
4 SALES AT STANDARD	93 3	0 0	93 3	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0 0	0 0	0 0	0 0
B RETURNS FROM CUSTOMERS FOR CREDIT	0 0	0 0	0 0	0 0
C RETURNS FROM CUSTOMERS, NO CREDIT	0 0	0 0	0 0	0.0
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0 0	
E TRANSFERS TO PROP DISPOSAL (-)	0 0	0 0	0.0	0.0
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0 0	0 0	0 0	0 0
G OTHER (listed in Section 9)	0.0	0 0	0.0	0 0
H. TOTAL ADJUSTMENTS	0.0	0.0	0.0	0.0
6. INVENTORY EOP	29.5	0.0	29.5	0.0
7. INVENTORY EOP (REVALUED)	0 0	0.0	0.0	0.0
A APPROVED ACQUISITION OBJECTIVE (memo)				0.0
B. ECONOMIC RETENTION (memo)				0.0
C. CONTINGENCY RETENTION (memo)				0 0
D. POTENTIAL DOD REUTILIZATION (memo)				0.0
8. INVENTORY ON ORDER EOP (memo)	30.8	0.0	30.8	0 0

9. NARRATIVE:

Other adjustments (total posted to line 5g).	Total	Mobilization	Operating	Other
Other Gains/Losses	0 0	0 0	0 0	0 0
Strata Transfers	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Net/standard Difference	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	0.0	0.0	0.0	0 0

Prepared 1/13/98

Department of Navy, Supply Mangement SM-4

INVENTORY STATUS

Budget Project 23

(Dollars in Millions)

FY1997

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	65.6	0.0	42.1	23.5
2. BOP INVENTORY ADJUSTMENTS				
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	0.0	0.0
B PRICE CHANGE AMOUNT (memo)	0.0	0.0	0.0	0.0
C INVENTORY RECLASSIFIED AND REPRICED	0.0	0.0	0.0	0.0
	65.6	0.0	42.1	23.5
3 RECEIPTS AT STANDARD	23.6	0.0	27.2	(3.6)
4 SALES AT STANDARD	17.1	0.0	17.1	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0.0	0.0	0.0	0.0
B RETURNS FROM CUSTOMERS FOR CREDIT	0.0	0.0	0.0	0.0
C RETURNS FROM CUSTOMERS, NO CREDIT	0.0	0.0	0.0	0.0
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	
E TRANSFERS TO PROP DISPOSAL (-)	0.0	0.0	0.0	0.0
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G OTHER (listed in Section 9)	(3.8)	0.0	(3.8)	0.0
H TOTAL ADJUSTMENTS	(3.8)	0.0	(3.8)	0.0
6. INVENTORY EOP	68.3	0.0	48.4	19.9
7. INVENTORY EOP (REVALUED)	0.0	0.0	0.0	0.0
A. APPROVED ACQUISITION OBJECTIVE (memo)				0.0
B. ECONOMIC RETENTION (memo)				0.0
C. CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				0.0
8. INVENTORY ON ORDER EOP (memo)	0.0	0.0	0.0	0.0

9. NARRATIVE:

Other adjustments (total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	(3.8)	0.0	(3.8)	0.0
Strata Transfers	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Net/standard Difference	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(3.8)	0.0	(3.8)	0.0

Prepared 1/13/98

Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 25
(Dollars in Millions)
FY 1997

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	0.0	0.0	0.0	0.0
2. BOP INVENTORY ADJUSTMENTS	0.0	0.0	0.0	0.0
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	0.0	0.0
B PRICE CHANGE AMOUNT (memo)	0.0	0.0	0.0	0.0
C INVENTORY RECLASSIFIED AND REPRICED	0.0	0.0	0.0	0.0
3 RECEIPTS AT STANDARD	0.0	0.0	0.0	0.0
4 SALES AT STANDARD	0.0	0.0	0.0	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0.0	0.0	0.0	0.0
B RETURNS FROM CUSTOMERS FOR CREDIT	0.0	0.0	0.0	0.0
C RETURNS FROM CUSTOMERS, NO CREDIT	0.0	0.0	0.0	0.0
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	
E TRANSFERS TO PROP DISPOSAL (-)	0.0	0.0	0.0	0.0
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G OTHER (listed in Section 9)	0.0	0.0	0.0	0.0
H TOTAL ADJUSTMENTS	0.0	0.0	0.0	0.0
6. INVENTORY EOP	0.0	0.0	0.0	0.0
7. INVENTORY EOP (REVALUED)	0.0	0.0	0.0	0.0
A APPROVED ACQUISITION OBJECTIVE (memo)				0.0
B ECONOMIC RETENTION (memo)				0.0
C CONTINGENCY RETENTION (memo)				0.0
D POTENTIAL DOD REUTILIZATION (memo)				0.0
8. INVENTORY ON ORDER EOP (memo)	0.0	0.0	0.0	0.0

9. NARRATIVE:

Other adjustments (total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	0.0	0.0	0.0	0.0
Strata Transfers	0.0	0.0	0.0	0.0
Net/standard Difference	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0

Prepared 1/13/98

Department of Navy Supply Mangement — SM-4

INVENTORY STATUS
Budget Project 28
(Dollars in Millions)
FY 1997

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	1,468.4	182.1	939.9	346.4
2. BOP INVENTORY ADJUSTMENTS	0.0	0.0	47.9	(47.9)
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	47.9	(47.9)
B PRICE CHANGE AMOUNT (memo)	0.0	0.0	0.0	0.0
C INVENTORY RECLASSIFIED AND REPRICED	1,468.4	182.1	987.8	298.5
3 RECEIPTS AT STANDARD	784.8	0.0	826.4	(41.6)
4 SALES AT STANDARD	870.3	0.0	870.3	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	(212.4)	0.0	8.3	(220.7)
B RETURNS FROM CUSTOMERS FOR CREDIT	18.3	0.0	18.3	0.0
C RETURNS FROM CUSTOMERS NO CREDIT	567.2	0.0	85.1	482.1
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	
E TRANSFERS TO PROP DISPOSAL (-)	(92.5)	0.0	0.0	(92.5)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(217.1)	0.0	(152.9)	(64.2)
G OTHER (listed in Section 9)	94.0	1.8	39.1	53.1
H. TOTAL ADJUSTMENTS	157.5	1.8	(2.1)	157.8
6 INVENTORY EOP	1,540.4	183.9	941.8	414.7
7 INVENTORY EOP (REVALUED)	1,025.0	139.9	706.4	178.7
A APPROVED ACQUISITION OBJECTIVE (memo)				174.6
B ECONOMIC RETENTION (memo)				0.0
C CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				4.1
8. INVENTORY ON ORDER EOP (memo)	0.0	0.0	0.0	0.0
9. NARRATIVE				

Other adjustments (total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	84.4	0.0	29.7	54.7
Strata Transfers	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Standard Price Difference (Net)	9.6	1.8	9.4	(1.6)
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	94.0	1.8	39.1	53.1

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Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 34
(Dollars in Millions)
FY1997

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	1,264.3	1.8	496.7	765.8
2. BOP INVENTORY ADJUSTMENTS	120.4	0.2	102.5	17.7
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	36.1	(36.1)
B PRICE CHANGE AMOUNT (memo)	120.4	0.2	66.4	53.8
C INVENTORY RECLASSIFIED AND REPRICED	1,384.7	2.0	599.2	783.5
3 RECEIPTS AT STANDARD	492.9	2.1	481.2	9.6
4 SALES AT STANDARD	408.5	0.0	408.5	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	(365.5)	(0.2)	(111.0)	(254.4)
B RETURNS FROM CUSTOMERS FOR CREDIT	10.3	0.1	9.2	1.0
C RETURNS FROM CUSTOMERS, NO CREDIT	138.2	0.1	31.4	106.7
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E. TRANSFERS TO PROP DISPOSAL (-)	(120.4)	0.0	0.0	(120.4)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(167.0)	(0.0)	(50.7)	(116.3)
G OTHER (listed in Section 9)	(78.9)	0.0	7.5	(86.4)
H. TOTAL ADJUSTMENTS	(583.4)	(0.1)	(113.6)	(469.8)
6. INVENTORY EOP	885.7	4.0	558.4	323.3
7. INVENTORY EOP (REVALUED)	644.5	3.1	410.2	231.2
A. APPROVED ACQUISITION OBJECTIVE (memo)				170.3
B. ECONOMIC RETENTION (memo)				52.5
C. CONTINGENCY RETENTION (memo)				7.2
D. POTENTIAL DOD REUTILIZATION (memo)				1.2
8. INVENTORY ON ORDER EOP (memo)	253.9	0.0	151.4	102.5

9. NARRATIVE:

Other adjustments (total posted to line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	(78.9)	0.0	(70.4)	(8.5)
Strata Transfers	0.0	0.0	77.9	(77.9)
Net/standard Difference	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(78.9)	0.0	7.5	(86.4)

Prepared 1/12/98

Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 38
(Dollars in Millions)
FY1997

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	209 7	0 0	160 7	49 0
2 BOP INVENTORY ADJUSTMENTS	0 0	0 0	0 0	0 0
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	0 0	0 0
B PRICE CHANGE AMOUNT (memo)	0 0	0 0	0 0	0 0
C INVENTORY RECLASSIFIED AND REPRICED	209 7	0.0	160.7	49.0
3 RECEIPTS AT STANDARD	1,004 4	0 0	1,004.4	0 0
4 SALES AT STANDARD	1,026 2	0 0	1,026 2	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0 0	0 0	0 0	0 0
B RETURNS FROM CUSTOMERS FOR CREDIT	1 8	0 0	1 8	0 0
C RETURNS FROM CUSTOMERS, NO CREDIT	0 1	0 0	0 1	0.0
D RETURNS TO SUPPLIERS (-)	0 0	0.0	0.0	
E TRANSFERS TO PROP. DISPOSAL (-)	(0 4)	0 0	(0.4)	0.0
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(0 3)	0 0	(0 3)	0.0
G OTHER (listed in Section 9)	14.5	0.0	14.4	0.1
H. TOTAL ADJUSTMENTS	15.7	0.0	15.6	0.1
6. INVENTORY EOP	203.6	0.0	154.5	49.1
7. INVENTORY EOP (REVALUED)	140.6	0.0	91.5	49.1
A APPROVED ACQUISITION OBJECTIVE (memo)				49.1
B. ECONOMIC RETENTION (memo)				0.0
C CONTINGENCY RETENTION (memo)				0 0
D. POTENTIAL DOD REUTILIZATION (memo)				0.0
8. INVENTORY ON ORDER EOP (memo)	0 0	0.0	0 0	0 0

9. NARRATIVE.

Other adjustments (total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	17 6	0 0	17 5	0 1
Strata Transfers	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Standard Price Changes (Net)	(3 1)	0 0	(3 1)	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	14.5	0.0	14 4	0.1

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Department of Navy Supply Management
INVENTORY STATUS
Budget Project 81
(Dollars in Millions)
FY1997

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	5,954 4	42 4	2,229.1	3,682.9
2. BOP INVENTORY ADJUSTMENTS	733 7	7 3	379 8	346 6
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	134 2	(134 2)
B PRICE CHANGE AMOUNT (memo)	733 7	7.3	245 6	480 8
C INVENTORY RECLASSIFIED AND REPRICED	6,688 1	49 7	2,608 9	4,029 5
3 RECEIPTS AT STANDARD	287 1	0 0	292.4	(5 3)
4 SALES AT STANDARD	513 7	0.0	513.7	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	17 6	0 0	6 8	10 8
B RETURNS FROM CUSTOMERS FOR CREDIT	46 1	0 0	16 4	29 7
C RETURNS FROM CUSTOMERS, NO CREDIT	1,944 5	0 0	505 6	1,438 9
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0 0	
E TRANSFERS TO PROP DISPOSAL (-)	(1,288 9)	0 0	0.0	(1,288.9)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(57 8)	0 0	(20.1)	(37.7)
G OTHER (listed in Section 9)	(557.2)	(30 0)	(201 8)	(325 4)
H. TOTAL ADJUSTMENTS	104.3	(30.0)	306.9	(172.6)
6. INVENTORY EOP	6,565.8	19.7	2,694.5	3,851.6
7. INVENTORY EOP (REVALUED)	4,394.2	15.1	2,152.9	2,226.2
A. APPROVED ACQUISITION OBJECTIVE (memo)				1,193.3
B. ECONOMIC RETENTION (memo)				803.7
C. CONTINGENCY RETENTION (memo)				209.3
D. POTENTIAL DOD REUTILIZATION (memo)				20.0
8. INVENTORY ON ORDER EOP (memo)	242.1	0.0	242.1	0.0

9. NARRATIVE:

Other adjustments (total posted to line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	37 9	0 0	7.9	30 0
Strata Transfers	0 0	(30 0)	385 4	(355 4)
Net/standard Difference	(595 1)	0 0	(595 1)	0.0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	(557.2)	(30.0)	(201.8)	(325.4)

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Department of Navy Supply Mangement

INVENTORY STATUS

Budget Project 85

(Dollars in Millions)

FY1997

SM-4

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	18,607 9	5.4	7,297.1	11,505.4
2 BOP INVENTORY ADJUSTMENTS	637 8	0 4	1,941 6	(1,304 2)
A RECLASSIFICATION CHANGE (memo)	0 0	0.0	1,664 4	(1,664 4)
B PRICE CHANGE AMOUNT (memo)	637 8	0 4	277 2	360 2
C INVENTORY RECLASSIFIED AND REPRICED	19,445 7	5 8	9,238.7	10,201.2
3 RECEIPTS AT STANDARD	779 4	2.8	763 8	12.8
4 SALES AT STANDARD	2,194 8	0 0	2,194 8	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	119 5	0 2	105 0	14 3
B RETURNS FROM CUSTOMERS FOR CREDIT	215 8	0 0	215 8	0 0
C RETURNS FROM CUSTOMERS, NO CREDIT	7,881 3	0 0	3,383 0	4,498.3
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0 0	
E TRANSFERS TO PROP DISPOSAL (-)	(2,696 8)	0.0	0.0	(2,696.8)
F. ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(458 0)	0.0	0.0	(458 0)
G. OTHER (listed in Section 9)	(4,992.7)	0.0	(4,568.2)	(424.5)
H. TOTAL ADJUSTMENTS	69.1	0.2	(864.4)	933.3
6. INVENTORY EOP	18,099.4	8.8	6,943.3	11,147.3
7. INVENTORY EOP (REVALUED)	11,423.3	6.7	5,080.4	6,336.1
A. APPROVED ACQUISITION OBJECTIVE (memo)				4,051.3
B. ECONOMIC RETENTION (memo)				1,242.5
C. CONTINGENCY RETENTION (memo)				990.3
D. POTENTIAL DOD REUTILIZATION (memo)				52 0
8. INVENTORY ON ORDER EOP (memo)	973 2	0.0	934.7	38.5
9. NARRATIVE:				

Other adjustments (total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	(590 8)	0 0	(491.7)	(99 1)
Strata Transfers	0 0	0 0	325 4	(325 4)
Net/standard Difference	(4,401 9)	0.0	(4,401 9)	0 0
	0.0	0.0	0 0	0 0
	0.0	0 0	0 0	0 0
	0.0	0.0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	(4,992.7)	0.0	(4,568.2)	(424.5)

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Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project SUMMARY
(Dollars in Millions)
FY1998

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	28,312.9	217.1	11,648.1	16,447.7
2 BOP INVENTORY ADJUSTMENTS	4,920.8	8.1	4,491.7	421.0
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	2,799.3	(2,799.3)
B PRICE CHANGE AMOUNT (memo)	4,920.8	8.1	1,692.4	3,220.3
C INVENTORY RECLASSIFIED AND REPRICED	33,233.7	225.2	16,139.8	16,868.7
3 RECEIPTS AT STANDARD	3,352.2	2.0	3,351.8	(1.6)
4 SALES AT STANDARD	6,252.3	0.0	6,252.3	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	726.3	(0.0)	919.1	(192.7)
B RETURNS FROM CUSTOMERS FOR CREDIT	393.3	0.3	236.5	156.5
C RETURNS FROM CUSTOMERS, NO CREDIT	10,818.5	0.1	5,735.6	5,082.8
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E TRANSFERS TO PROP DISPOSAL (-)	(3,917.4)	0.0	(0.5)	(3,916.9)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(214.4)	0.0	(160.4)	(54.0)
G OTHER (listed in Section 9)	(6,794.8)	3.9	(6,130.5)	(668.2)
H. TOTAL ADJUSTMENTS	1,011.6	4.2	599.8	407.6
6. INVENTORY EOP	31,345.2	231.4	13,839.1	17,274.7
7. INVENTORY EOP (REVALUED)	16,136.9	167.7	8,073.6	7,895.7
A. APPROVED ACQUISITION OBJECTIVE (memo)				5,010.0
B. ECONOMIC RETENTION (memo)				1,770.3
C. CONTINGENCY RETENTION (memo)				1,050.8
D. POTENTIAL DOD REUTILIZATION (memo)				64.5
8. INVENTORY ON ORDER EOP (memo)	2,007.9	0.0	1,992.5	15.4

9. NARRATIVE:

Other adjustments (Total posted to line 5g).

	Total	Mobilization	Operating	Other
Other Gains/Losses	(65.0)	0.0	104.0	(169.0)
Strata Transfers	0.0	0.0	506.5	(506.5)
Net/Standard Differences	(6,790.7)	0.0	(6,790.7)	0.0
Standard Price Difference (Net)	60.9	3.9	49.7	7.3
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(6,794.8)	3.9	(6,130.5)	(668.2)

Department of Navy Supply Mangement

INVENTORY STATUS

Budget Project 14

(Dollars in Millions)

FY1998

SM-4

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	899 0	0 4	269 3	629.3
2 BOP INVENTORY ADJUSTMENTS	169 1	0 1	57 7	111 3
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	3 0	(3 0)
B PRICE CHANGE AMOUNT (memo)	169 1	0 1	54 7	114 3
C INVENTORY RECLASSIFIED AND REPRICED	1,068 1	0 5	327 0	740 6
3 RECEIPTS AT STANDARD	120 0	0 0	120 0	0 0
4 SALES AT STANDARD	114 8	0 0	114 8	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	(6 8)	0 0	(6 7)	(0 1)
B RETURNS FROM CUSTOMERS FOR CREDIT	5 9	0 0	4 2	1 7
C RETURNS FROM CUSTOMERS NO CREDIT	29 4	0 0	0 0	29 4
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0 0	0 0
E TRANSFERS TO PROP DISPOSAL (-)	(100 0)	0 0	0.0	(100 0)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0 0	0 0	0 0	0 0
G OTHER (listed in Section 9)	(7 5)	0 0	27.2	(34.7)
H TOTAL ADJUSTMENTS	(79 0)	0 0	24.7	(103.7)
6. INVENTORY EOP	994.3	0.5	356.9	636.9
7. INVENTORY EOP (REVALUED)	584.0	0.3	238.4	345 2
A. APPROVED ACQUISITION OBJECTIVE (memo)				136.4
B ECONOMIC RETENTION (memo)				108 4
C CONTINGENCY RETENTION (memo)				98 0
D. POTENTIAL DOD REUTILIZATION (memo)				2 4
8. INVENTORY ON ORDER EOP (memo)	123.4	0.0	123 4	0 0

9. NARRATIVE:

Other adjustments (Total posted to line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	(7 5)	0 0	(2 6)	(4 9)
Strata Transfers	0 0	0 0	29 8	(29 8)
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	(7.5)	0.0	27.2	(34 7)

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Department of Navy, Supply Mangement SM-4
INVENTORY STATUS
Budget Project 15
(Dollars in Millions)
FY1998

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	21 2	0 3	8 4	12 5
2. BOP INVENTORY ADJUSTMENTS	0 0	0 0	1 3	(1 3)
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	1 3	(1 3)
B PRICE CHANGE AMOUNT (memo)	0 0	0 0	0 0	0.0
C. INVENTORY RECLASSIFIED AND REPRICED	21 2	0 3	9 7	11.2
3 RECEIPTS AT STANDARD	7 4	0 0	7.4	0 0
4. SALES AT STANDARD	7 3	0.0	7.3	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0 0	0 0	0 0	0 0
B RETURNS FROM CUSTOMERS FOR CREDIT	0 0	0 0	0 0	0 0
C RETURNS FROM CUSTOMERS, NO CREDIT	0 0	0 0	0 0	0 0
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0 0	0 0
E TRANSFERS TO PROP DISPOSAL (-)	(0 5)	0.0	0 0	(0 5)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0 0	0 0	0 0	0 0
G OTHER (listed in Section 9)	(1 0)	0 0	(1.6)	0 6
H. TOTAL ADJUSTMENTS	(1 5)	0.0	(1.6)	0.1
6. INVENTORY EOP	19.8	0.3	8.2	11.3
7. INVENTORY EOP (REVALUED)	8.3	0.0	0.0	8.3
A. APPROVED ACQUISITION OBJECTIVE (memo)				8 0
B ECONOMIC RETENTION (memo)				0 2
C. CONTINGENCY RETENTION (memo)				0 0
D. POTENTIAL DOD REUTILIZATION (memo)				0.0
8. INVENTORY ON ORDER EOP (memo)	0.0	0.0	0 0	0.0

9. NARRATIVE:

Other adjustments (Total posted to line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	(1 2)	0 0	(1 2)	0 0
Strata Transfers	0 0	0 0	(0 5)	0 5
	0 0	0 0	0 0	0 0
Net/standard Difference	0 2	0 0	0 1	0 1
	0 0	0 0	0 0	0 0
	0.0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	(1.0)	0.0	(1.6)	0.6

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Department of Navy Supply Mangement

INVENTORY STATUS

Budget Project 21

(Dollars in Millions)

FY1998

SM-4

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	29 5	0 0	29 5	0.0
2. BOP INVENTORY ADJUSTMENTS	0 0	0 0	0 0	0.0
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	0.0	0.0
B. PRICE CHANGE AMOUNT (memo)	0 0	0 0	0 0	0 0
C INVENTORY RECLASSIFIED AND REPRICED	29 5	0 0	29.5	0.0
3 RECEIPTS AT STANDARD	88 7	0 0	88.7	0 0
4 SALES AT STANDARD	91 5	0 0	91.5	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0 0	0 0	0 0	0 0
B RETURNS FROM CUSTOMERS FOR CREDIT	0 0	0 0	0 0	0 0
C RETURNS FROM CUSTOMERS, NO CREDIT	0 0	0 0	0 0	0 0
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0 0	0.0
E TRANSFERS TO PROP DISPOSAL (-)	0 0	0 0	0.0	0.0
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0 0	0 0	0 0	0.0
G OTHER (listed in Section 9)	1 5	0 0	1.5	0.0
H TOTAL ADJUSTMENTS	1.5	0 0	1.5	0 0
6 INVENTORY EOP	28 2	0 0	28.2	0.0
7. INVENTORY EOP (REVALUED)	0.0	0.0	0.0	0.0
A APPROVED ACQUISITION OBJECTIVE (memo)				0.0
B ECONOMIC RETENTION (memo)				0 0
C. CONTINGENCY RETENTION (memo)				0 0
D. POTENTIAL DOD REUTILIZATION (memo)				0 0
8. INVENTORY ON ORDER EOP (memo)	0 0	0 0	0 0	0 0

9. NARRATIVE:

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	0 0	0 0	0 0	0 0
Strata Transfers	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Net/standard Difference	1 5	0 0	1 5	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0.0	0 0
Total	1.5	0 0	1.5	0 0

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Department of Navy, Supply Mangement SM-4
INVENTORY STATUS
Budget Project 23
(Dollars in Millions)
FY1998

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	68.3	0.0	48.4	19.9
2 BOP INVENTORY ADJUSTMENTS	0.0	0.0	0.0	0.0
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	0.0	0.0
B PRICE CHANGE AMOUNT (memo)	0.0	0.0	0.0	0.0
C. INVENTORY RECLASSIFIED AND REPRICED	68.3	0.0	48.4	19.9
3 RECEIPTS AT STANDARD	24.9	0.0	24.9	0.0
4 SALES AT STANDARD	30.9	0.0	30.9	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0.0	0.0	0.0	0.0
B RETURNS FROM CUSTOMERS FOR CREDIT	0.0	0.0	0.0	0.0
C RETURNS FROM CUSTOMERS NO CREDIT	0.0	0.0	0.0	0.0
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E TRANSFERS TO PROP DISPOSAL (-)	0.0	0.0	0.0	0.0
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G OTHER (listed in Section 9)	(0.9)	0.0	(0.9)	0.0
H. TOTAL ADJUSTMENTS	(0.9)	0.0	(0.9)	0.0
6. INVENTORY EOP	61.4	0.0	41.5	19.9
7. INVENTORY EOP (REVALUED)	0.0	0.0	0.0	0.0
A. APPROVED ACQUISITION OBJECTIVE (memo)				0.0
B. ECONOMIC RETENTION (memo)				0.0
C. CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				0.0
8. INVENTORY ON ORDER EOP (memo)	0.0	0.0	0.0	0.0

9. NARRATIVE:

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	(0.9)	0.0	(0.9)	0.0
Strata Transfers	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(0.9)	0.0	(0.9)	0.0

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Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 25
(Dollars in Millions)
FY1998

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	0.0	0.0	0.0	0.0
2 BOP INVENTORY ADJUSTMENTS	0.0	0.0	0.0	0.0
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	0.0	0.0
B PRICE CHANGE AMOUNT (memo)	0.0	0.0	0.0	0.0
C INVENTORY RECLASSIFIED AND REPRICED	0.0	0.0	0.0	0.0
3 RECEIPTS AT STANDARD	1.0	0.0	1.0	0.0
4 SALES AT STANDARD	1.0	0.0	1.0	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0.0	0.0	0.0	0.0
B RETURNS FROM CUSTOMERS FOR CREDIT	0.0	0.0	0.0	0.0
C RETURNS FROM CUSTOMERS, NO CREDIT	0.0	0.0	0.0	0.0
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E TRANSFERS TO PROP DISPOSAL (-)	0.0	0.0	0.0	0.0
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G OTHER (listed in Section 9)	0.0	0.0	0.0	0.0
H. TOTAL ADJUSTMENTS	0.0	0.0	0.0	0.0
6. INVENTORY EOP	0.0	0.0	0.0	0.0
7. INVENTORY EOP (REVALUED)	0.0	0.0	0.0	0.0
A APPROVED ACQUISITION OBJECTIVE (memo)				0.0
B. ECONOMIC RETENTION (memo)				0.0
C. CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				0.0
8. INVENTORY ON ORDER EOP (memo)	0.0	0.0	0.0	0.0

9. NARRATIVE:

Other adjustments (Total posted to line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	0.0	0.0	0.0	0.0
Strata Transfers	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0

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Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 28
(Dollars in Millions)
FY1998

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	1,540 4	183 9	941.8	414 7
2 BOP INVENTORY ADJUSTMENTS	0 0	0 0	42 9	(42 9)
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	42 9	(42 9)
B PRICE CHANGE AMOUNT (memo)	0 0	0 0	0 0	0 0
C INVENTORY RECLASSIFIED AND REPRICED	1,540 4	183 9	984 7	371 8
3 RECEIPTS AT STANDARD	814 0	0 0	853 5	(39 5)
4 SALES AT STANDARD	852 8	0 0	852 8	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	(250 9)	0 0	8 5	(259 4)
B RETURNS FROM CUSTOMERS FOR CREDIT	21 1	0 0	21.1	0 0
C RETURNS FROM CUSTOMERS, NO CREDIT	480 0	0 0	70 0	410 0
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0 0	0 0
E TRANSFERS TO PROP DISPOSAL (-)	(84 4)	0 0	0.0	(84 4)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(214 0)	0 0	(160 0)	(54 0)
G. OTHER (listed in Section 9)	90 0	3 9	98 6	(12.5)
H. TOTAL ADJUSTMENTS	41.8	3.9	38.2	(0.3)
6. INVENTORY EOP	1,543.4	187.8	1,023 6	332.0
7. INVENTORY EOP (REVALUED)	1,051.8	142.9	766.8	142 1
A APPROVED ACQUISITION OBJECTIVE (memo)				138.8
B ECONOMIC RETENTION (memo)				0 0
C CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				3.3
8. INVENTORY ON ORDER EOP (memo)	0 0	0 0	0.0	0 0

9. NARRATIVE:

Other adjustments (Total posted to line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	59 1	0 0	78 8	(19 7)
Strata Transfers	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Standard Price Difference (Net)	30 9	3 9	19 8	7 2
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	90.0	3.9	98 6	(12.5)

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Department of Navy, Supply Mangement SM-4
INVENTORY STATUS
Budget Project 34
(Dollars in Millions)
FY1998

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	885.7	4.0	558.4	323.3
2. BOP INVENTORY ADJUSTMENTS	207.9	0.7	135.0	72.2
A. RECLASSIFICATION CHANGE (memo)	0.0	0.0	40.8	(40.8)
B. PRICE CHANGE AMOUNT (memo)	207.9	0.7	94.2	113.0
C. INVENTORY RECLASSIFIED AND REPRICED	1,093.6	4.7	693.4	395.5
3. RECEIPTS AT STANDARD	258.4	0.0	255.4	3.0
4. SALES AT STANDARD	452.6	0.0	452.6	0.0
5. INVENTORY ADJUSTMENTS				
A. CAPITALIZATIONS + or (-)	(100.2)	(0.0)	(95.1)	(5.0)
B. RETURNS FROM CUSTOMERS FOR CREDIT	9.3	0.1	8.7	0.5
C. RETURNS FROM CUSTOMERS, NO CREDIT	90.1	0.1	4.5	85.6
D. RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E. TRANSFERS TO PROP. DISPOSAL (-)	(112.1)	0.0	0.0	(112.1)
F. ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G. OTHER (listed in Section 9)	(5.0)	0.0	(4.5)	(0.5)
H. TOTAL ADJUSTMENTS	(117.8)	0.1	(86.4)	(31.5)
6. INVENTORY EOP	781.6	4.8	409.8	367.0
7. INVENTORY EOP (REVALUED)	472.1	2.8	227.3	242.0
A. APPROVED ACQUISITION OBJECTIVE (memo)				196.7
B. ECONOMIC RETENTION (memo)				39.0
C. CONTINGENCY RETENTION (memo)				5.3
D. POTENTIAL DOD REUTILIZATION (memo)				1.0
8. INVENTORY ON ORDER EOP (memo)	356.9	0.0	355.4	1.5

9. NARRATIVE:

Other adjustments (Total posted to line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	(5.0)	0.0	(4.7)	(0.3)
Strata Transfers	0.0	0.0	0.2	(0.2)
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(5.0)	0.0	(4.5)	(0.5)

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Department of Navy, Supply Mangement SM-4

INVENTORY STATUS

Budget Project 38

(Dollars in Millions)

FY1998

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	203 6	0 0	154 5	49 1
2 BOP INVENTORY ADJUSTMENTS	0 0	0 0	0 0	0 0
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	0 0	0 0
B PRICE CHANGE AMOUNT (memo)	0 0	0 0	0 0	0 0
C INVENTORY RECLASSIFIED AND REPRICED	203 6	0 0	154 5	49 1
3 RECEIPTS AT STANDARD	1,144 3	0 0	1,144.3	0 0
4 SALES AT STANDARD	1,195 7	0 0	1,195.7	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0 0	0 0	0 0	0 0
B RETURNS FROM CUSTOMERS FOR CREDIT	0 6	0 0	0 6	0 0
C RETURNS FROM CUSTOMERS, NO CREDIT	0 1	0 0	0 1	0 0
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0 0	0 0
E TRANSFERS TO PROP DISPOSAL (-)	(0 5)	0 0	(0.5)	0 0
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(0 4)	0 0	(0 4)	0 0
G. OTHER (listed in Section 9)	49 0	0 0	49 0	0 0
H. TOTAL ADJUSTMENTS	48.8	0 0	48.8	0.0
6. INVENTORY EOP	201.0	0.0	151.9	49.1
7. INVENTORY EOP (REVALUED)	137.6	0.0	88.5	49.1
A APPROVED ACQUISITION OBJECTIVE (memo)				49 1
B. ECONOMIC RETENTION (memo)				0 0
C. CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				0.0
8. INVENTORY ON ORDER EOP (memo)	0.0	0.0	0.0	0.0

9. NARRATIVE:

Other adjustments (Total posted to line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	20 7	0 0	20 7	0 0
Strata Transfers	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Standard Price Changes (Net)	28 3	0 0	28 3	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	49.0	0.0	49.0	0 0

Prepared 1/12/98

Department of Navy Supply Management
INVENTORY STATUS
Budget Project 81
(Dollars in Millions)
FY 1998

SM-4

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	6,565.8	19.7	2,694.5	3,851.6
2. BOP INVENTORY ADJUSTMENTS	1,523.4	5.1	598.5	919.8
A. RECLASSIFICATION CHANGE (memo)	0.0	0.0	134.2	(134.2)
B PRICE CHANGE AMOUNT (memo)	1,523.4	5.1	464.3	1,054.0
C. INVENTORY RECLASSIFIED AND REPRICED	8,089.2	24.8	3,293.0	4,771.4
3 RECEIPTS AT STANDARD	332.0	0.0	332.0	0.0
4 SALES AT STANDARD	641.3	0.0	641.3	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0.0	0.0	0.0	0.0
B RETURNS FROM CUSTOMERS FOR CREDIT	74.8	0.0	28.9	45.9
C RETURNS FROM CUSTOMERS, NO CREDIT	1,566.7	0.0	362.5	1,204.2
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E TRANSFERS TO PROP DISPOSAL (-)	(1,500.0)	0.0	0.0	(1,500.0)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G OTHER (listed in Section 9)	(756.2)	0.0	(458.5)	(297.7)
H TOTAL ADJUSTMENTS	(614.7)	0.0	(67.1)	(547.6)
6 INVENTORY EOP	7,165.2	24.8	2,916.6	4,223.8
7. INVENTORY EOP (REVALUED)	3,675.8	14.1	1,744.1	1,917.6
A. APPROVED ACQUISITION OBJECTIVE (memo)				1,085.4
B. ECONOMIC RETENTION (memo)				646.2
C. CONTINGENCY RETENTION (memo)				168.7
D. POTENTIAL DOD REUTILIZATION (memo)				17.3
8. INVENTORY ON ORDER EOP (memo)	255.7	0.0	255.7	0.0

9. NARRATIVE:

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	(55.3)	0.0	(18.4)	(36.9)
Strata Transfers	0.0	0.0	260.8	(260.8)
Net/Standard Difference	(700.9)	0.0	(700.9)	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(756.2)	0.0	(458.5)	(297.7)

Prepared 1/12/98

Department of Navy Supply Mangement SM-4

INVENTORY STATUS

Budget Project 85

(Dollars in Millions)

FY1998

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	18,099 4	8 8	6,943 3	11,147.3
2. BOP INVENTORY ADJUSTMENTS	3,020 4	2 2	3,656 3	(638 1)
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	2,577 1	(2,577.1)
B PRICE CHANGE AMOUNT (memo)	3,020 4	2 2	1,079 2	1,939 0
C. INVENTORY RECLASSIFIED AND REPRICED	21,119 8	11 0	10,599.6	10,509.2
3 RECEIPTS AT STANDARD	561 5	2 0	524 6	34 9
4 SALES AT STANDARD	2,864 4	0 0	2,864 4	0 0.
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	1,084 2	0 0	1,012 4	71 8
B RETURNS FROM CUSTOMERS FOR CREDIT	281 6	0 2	173 0	108 4
C RETURNS FROM CUSTOMERS, NO CREDIT	8,652 2	0 0	5,298 5	3,353 7
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0.0	0 0
E TRANSFERS TO PROP DISPOSAL (-)	(2,119 9)	0.0	0.0	(2,119 9)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0 0	0 0	0.0	0 0
G. OTHER (listed in Section 9)	(6,164 7)	0.0	(5,841.3)	(323.4)
H. TOTAL ADJUSTMENTS	1,733 4	0.2	642.6	1,090 6
6 INVENTORY EOP	20,550.3	13.2	8,902.4	11,634.7
7. INVENTORY EOP (REVALUED)	10,207.5	7.6	5,006.5	5,191.4
A. APPROVED ACQUISITION OBJECTIVE (memo)				3,395 7
B ECONOMIC RETENTION (memo)				976.5
C. CONTINGENCY RETENTION (memo)				778 7
D. POTENTIAL DOD REUTILIZATION (memo)				40.5
8. INVENTORY ON ORDER EOP (memo)	1,271.9	0.0	1,258.0	13.9

9. NARRATIVE:

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	(74 9)	0 0	32 3	(107 2)
Strata Transfers	0 0	0 0	216 2	(216 2)
Net/Std Difference	(6,089 8)	0 0	(6,089 8)	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	(6,164.7)	0.0	(5,841.3)	(323.4)

Prepared 1/14/98

Department of Navy, Supply Mangement — SM-4

INVENTORY STATUS

Budget Project — SUMMARY

(Dollars in Millions)

FY1999

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	31,345.2	231.4	13,639.1	17,274.7
2. BOP INVENTORY ADJUSTMENTS	(1,214.1)	(3.6)	1,229.7	(2,440.2)
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	1,841.6	(1,841.6)
B PRICE CHANGE AMOUNT (memo)	(1,214.1)	(3.6)	(611.9)	(598.6)
C INVENTORY RECLASSIFIED AND REPRICED	30,131.1	227.8	15,068.8	14,834.5
3 RECEIPTS AT STANDARD	3,144.5	1.2	3,179.2	(35.9)
4 SALES AT STANDARD	5,732.0	0.0	5,732.0	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	568.3	0.0	830.5	(262.2)
B RETURNS FROM CUSTOMERS FOR CREDIT	320.7	0.2	193.8	126.7
C RETURNS FROM CUSTOMERS, NO CREDIT	9,780.3	0.0	4,785.3	4,994.9
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E TRANSFERS TO PROP DISPOSAL (-)	(3,820.7)	0.0	(0.4)	(3,820.3)
F. ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(218.4)	0.0	(160.4)	(58.0)
G OTHER (listed in Section 9)	(6,360.8)	0.2	(5,456.1)	(904.9)
H. TOTAL ADJUSTMENTS	269.4	0.4	192.7	76.3
6. INVENTORY EOP	27,812.9	229.4	12,708.7	14,874.8
7. INVENTORY EOP (REVALUED)	16,064.3	168.7	7,760.9	8,134.7
A. APPROVED ACQUISITION OBJECTIVE (memo)				5,239.5
B. ECONOMIC RETENTION (memo)				1,718.0
C. CONTINGENCY RETENTION (memo)				1,112.6
D. POTENTIAL DOD REUTILIZATION (memo)				64.7
8. INVENTORY ON ORDER EOP (memo)	1,883.7	0.0	1,869.4	14.3

9. NARRATIVE:

Other adjustments (Total posted to line 5g):

Other Gains/Losses	(127.1)	0.0	44.1	(171.2)
Strata Transfers	0.0	0.0	734.2	(734.2)
Net/standard Difference	(6,223.5)	0.0	(6,223.5)	0.0
Standard Price Difference (Net)	(10.2)	0.2	(10.9)	0.5
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(6,360.8)	0.2	(5,456.1)	(904.9)

Prepared 1/13/98

Department of Navy Supply Mangement
INVENTORY STATUS
Budget Project 14
(Dollars in Millions)
FY 1999

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	994 3	0 5	356 9	636 9
2 BOP INVENTORY ADJUSTMENTS	(20 9)	0 0	(0 3)	(20 6)
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	3 0	(3 0)
B PRICE CHANGE AMOUNT (memo)	(20 9)	0 0	(3 3)	(17 6)
C INVENTORY RECLASSIFIED AND REPRICED	973 4	0 5	356 6	616 3
3 RECEIPTS AT STANDARD	112 1	0.0	112.1	0.0
4 SALES AT STANDARD	153 4	0 0	153 4	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	(0 6)	0 0	1 9	(2 5)
B RETURNS FROM CUSTOMERS FOR CREDIT	5 9	0 0	4 2	1 7
C RETURNS FROM CUSTOMERS, NO CREDIT	29 4	0 0	0.0	29 4
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0.0	0 0
E TRANSFERS TO PROP. DISPOSAL (-)	(100 0)	0.0	0.0	(100.0)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0 0	0 0	0.0	0 0
G OTHER (listed in Section 9)	(9. 1)	0 0	16 3	(25.4)
H. TOTAL ADJUSTMENTS	(74.4)	0.0	22.4	(96.8)
6. INVENTORY EOP	857.7	0 5	337.7	519.5
7. INVENTORY EOP (REVALUED)	529.8	0.3	234 4	295 1
A. APPROVED ACQUISITION OBJECTIVE (memo)				121.0
B. ECONOMIC RETENTION (memo)				90 3
C. CONTINGENCY RETENTION (memo)				81.4
D. POTENTIAL DOD REUTILIZATION (memo)				2.4
8. INVENTORY ON ORDER EOP (memo)	106 8	0.0	106 8	0 0

9 NARRATIVE:

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	(9 1)	0 0	(3 1)	(6 0)
Strata Transfers	0 0	0 0	19 4	(19 4)
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0.0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0.0	0 0	0 0	0 0
Total	(9.1)	0.0	16.3	(25 4)

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Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 15
(Dollars in Millions)
FY 1999

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	19.8	0.3	8.2	11.3
2. BOP INVENTORY ADJUSTMENTS	0.2	0.0	1.3	(1.1)
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	1.2	(1.2)
B PRICE CHANGE AMOUNT (memo)	0.2	0.0	0.1	0.1
C INVENTORY RECLASSIFIED AND REPRICED	20.0	0.3	9.5	10.2
3 RECEIPTS AT STANDARD	7.2	0.0	7.2	0.0
4 SALES AT STANDARD	7.0	0.0	7.0	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0.0	0.0	0.0	0.0
B RETURNS FROM CUSTOMERS FOR CREDIT	0.0	0.0	0.0	0.0
C RETURNS FROM CUSTOMERS NO CREDIT	0.0	0.0	0.0	0.0
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E TRANSFERS TO PROP DISPOSAL (-)	(0.5)	0.0	0.0	(0.5)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G OTHER (listed in Section 9)	(1.0)	0.0	(1.6)	0.6
H. TOTAL ADJUSTMENTS	(1.5)	0.0	(1.6)	0.1
6. INVENTORY EOP	18.7	0.3	8.1	10.3
7. INVENTORY EOP (REVALUED)	8.0	0.0	0.0	8.0
A. APPROVED ACQUISITION OBJECTIVE (memo)				7.9
B. ECONOMIC RETENTION (memo)				0.0
C CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				0.1
8. INVENTORY ON ORDER EOP (memo)	0.0	0.0	0.0	0.0

9 NARRATIVE:

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	(1.2)	0.0	(1.2)	0.0
Strata Transfers	0.0	0.0	(0.5)	0.5
	0.0	0.0	0.0	0.0
Net/standard Difference	0.2	0.0	0.1	0.1
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(1.0)	0.0	(1.6)	0.6

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Department of Navy, Supply Mangement SM-4
INVENTORY STATUS
Budget Project 21
(Dollars in Millions)
FY1999

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	28.2	0.0	28.2	0.0
2. BOP INVENTORY ADJUSTMENTS	0.0	0.0	0.0	0.0
A. RECLASSIFICATION CHANGE (memo)	0.0	0.0	0.0	0.0
B. PRICE CHANGE AMOUNT (memo)	0.0	0.0	0.0	0.0
C. INVENTORY RECLASSIFIED AND REPRICED	28.2	0.0	28.2	0.0
3. RECEIPTS AT STANDARD	86.9	0.0	86.9	0.0
4. SALES AT STANDARD	90.0	0.0	90.0	0.0
5. INVENTORY ADJUSTMENTS				
A. CAPITALIZATIONS + or (-)	0.0	0.0	0.0	0.0
B. RETURNS FROM CUSTOMERS FOR CREDIT	0.0	0.0	0.0	0.0
C. RETURNS FROM CUSTOMERS, NO CREDIT	0.0	0.0	0.0	0.0
D. RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E. TRANSFERS TO PROP. DISPOSAL (-)	0.0	0.0	0.0	0.0
F. ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G. OTHER (listed in Section 9)	1.5	0.0	1.5	0.0
H. TOTAL ADJUSTMENTS	1.5	0.0	1.5	0.0
6. INVENTORY EOP	26.6	0.0	26.6	0.0
7. INVENTORY EOP (REVALUED)	0.0	0.0	0.0	0.0
A. APPROVED ACQUISITION OBJECTIVE (memo)				0.0
B. ECONOMIC RETENTION (memo)				0.0
C. CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				0.0
8. INVENTORY ON ORDER EOP (memo)	0.0	0.0	0.0	0.0

9. NARRATIVE:

Other adjustments (Total posted to line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	0.0	0.0	0.0	0.0
Strata Transfers	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Net/standard Difference	1.5	0.0	1.5	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	1.5	0.0	1.5	0.0

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Department of Navy, Supply Mangement SM-4
INVENTORY STATUS
Budget Project 23
(Dollars in Millions)
FY1999

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	61 4	0 0	41.5	19 9
2. BOP INVENTORY ADJUSTMENTS				
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	0 0	0 0
B PRICE CHANGE AMOUNT (memo)	0 0	0 0	0 0	0 0
C INVENTORY RECLASSIFIED AND REPRICED	0 0	0 0	0 0	0 0
	61 4	0 0	41.5	19 9
3 RECEIPTS AT STANDARD	28 2	0 0	28.2	0 0
4 SALES AT STANDARD	34 9	0 0	34 9	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0 0	0 0	0 0	0 0
B RETURNS FROM CUSTOMERS FOR CREDIT	0 0	0 0	0 0	0 0
C RETURNS FROM CUSTOMERS, NO CREDIT	0 0	0 0	0 0	0 0
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0 0	0 0
E TRANSFERS TO PROP DISPOSAL (-)	0 0	0 0	0.0	0.0
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0 0	0.0	0 0
G. OTHER (listed in Section 9)	3 0	0 0	3.0	0 0
H. TOTAL ADJUSTMENTS	3.0	0.0	3.0	0.0
6 INVENTORY EOP	57.7	0 0	37.8	19.9
7. INVENTORY EOP (REVALUED)	0 0	0 0	0.0	0 0
A. APPROVED ACQUISITION OBJECTIVE (memo)				0.0
B. ECONOMIC RETENTION (memo)				0 0
C CONTINGENCY RETENTION (memo)				0 0
D. POTENTIAL DOD REUTILIZATION (memo)				0 0
				0 0
8 INVENTORY ON ORDER EOP (memo)	0 0	0 0	0.0	0 0

9 NARRATIVE

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	3 0	0 0	3 0	0 0
Strata Transfers	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	3.0	0.0	3.0	0 0

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Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 25
(Dollars in Millions)
FY 1999

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	0.0	0.0	0.0	0.0
2. BOP INVENTORY ADJUSTMENTS	0.0	0.0	0.0	0.0
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	0.0	0.0
B PRICE CHANGE AMOUNT (memo)	0.0	0.0	0.0	0.0
C INVENTORY RECLASSIFIED AND REPRICED	0.0	0.0	0.0	0.0
3 RECEIPTS AT STANDARD	1.0	0.0	1.0	0.0
4 SALES AT STANDARD	1.0	0.0	1.0	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0.0	0.0	0.0	0.0
B RETURNS FROM CUSTOMERS FOR CREDIT	0.0	0.0	0.0	0.0
C RETURNS FROM CUSTOMERS NO CREDIT	0.0	0.0	0.0	0.0
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E TRANSFERS TO PROP DISPOSAL (-)	0.0	0.0	0.0	0.0
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G. OTHER (listed in Section 9)	0.0	0.0	0.0	0.0
H. TOTAL ADJUSTMENTS	0.0	0.0	0.0	0.0
6. INVENTORY EOP	0.0	0.0	0.0	0.0
7. INVENTORY EOP (REVALUED)	0.0	0.0	0.0	0.0
A. APPROVED ACQUISITION OBJECTIVE (memo)				0.0
B. ECONOMIC RETENTION (memo)				0.0
C. CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				0.0
8. INVENTORY ON ORDER EOP (memo)	0.0	0.0	0.0	0.0

9. NARRATIVE

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	0.0	0.0	0.0	0.0
Strata Transfers	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0

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Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 28
(Dollars in Millions)
FY1999

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	1,543.4	187.8	1,023.6	332.0
2. BOP INVENTORY ADJUSTMENTS				
A RECLASSIFICATION CHANGE (memo)	0.0	0.0	34.1	(34.1)
B PRICE CHANGE AMOUNT (memo)	0.0	0.0	34.1	(34.1)
C INVENTORY RECLASSIFIED AND REPRICED	0.0	0.0	0.0	0.0
	1,543.4	187.8	1,057.7	297.9
3 RECEIPTS AT STANDARD	806.7	0.0	846.2	(39.5)
4 SALES AT STANDARD	852.0	0.0	852.0	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	(251.2)	0.0	8.5	(259.7)
B RETURNS FROM CUSTOMERS FOR CREDIT	21.1	0.0	21.1	0.0
C RETURNS FROM CUSTOMERS, NO CREDIT	480.0	0.0	70.0	410.0
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E TRANSFERS TO PROP DISPOSAL (-)	(84.5)	0.0	0.0	(84.5)
F. ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(218.0)	0.0	(160.0)	(58.0)
G OTHER (listed in Section 9)	(17.4)	0.2	3.1	(20.7)
H. TOTAL ADJUSTMENTS	(70.0)	0.2	(57.3)	(12.9)
6. INVENTORY EOP	1,428.1	188.0	994.6	245.5
7 INVENTORY EOP (REVALUED)	992.0	143.0	744.8	104.3
A. APPROVED ACQUISITION OBJECTIVE (memo)				101.9
B. ECONOMIC RETENTION (memo)				0.0
C. CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				2.5
8. INVENTORY ON ORDER EOP (memo)	0.0	0.0	0.0	0.0

9. NARRATIVE:

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	(18.9)	0.0	2.2	(21.1)
Strata Transfers	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Standard Price Difference (Net)	1.5	0.2	0.9	0.4
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(17.4)	0.2	3.1	(20.7)

Prepared 1/12/98

Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 34
(Dollars in Millions)
FY1999

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	781 6	4 8	409 8	367.0
2. BOP INVENTORY ADJUSTMENTS	(96 1)	(0 8)	(33.1)	(62.2)
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	32 6	(32.6)
B PRICE CHANGE AMOUNT (memo)	(96 1)	(0 8)	(65 7)	(29 6)
C INVENTORY RECLASSIFIED AND REPRICED	685 5	4 0	376 7	304 8
3 RECEIPTS AT STANDARD	379 2	0 0	376.7	2.5
4 SALES AT STANDARD	314 5	0 0	314.5	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	(7 1)	0 0	(7.1)	0 0
B RETURNS FROM CUSTOMERS FOR CREDIT	6 8	0.1	6.4	0.3
C RETURNS FROM CUSTOMERS, NO CREDIT	39 8	0 0	1.9	37 9
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0.0	0 0
E TRANSFERS TO PROP. DISPOSAL (-)	(91.7)	0.0	0.0	(91.7)
F. ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G. OTHER (listed in Section 9)	(3.4)	0.0	(2.7)	(0.7)
H. TOTAL ADJUSTMENTS	(55.6)	0.1	(1.5)	(54 2)
6. INVENTORY EOP	694.6	4.1	437.4	253.1
7 INVENTORY EOP (REVALUED)	480.6	2.6	266.6	211 4
A. APPROVED ACQUISITION OBJECTIVE (memo)				193 9
B ECONOMIC RETENTION (memo)				15.1
C. CONTINGENCY RETENTION (memo)				2 1
D. POTENTIAL DOD REUTILIZATION (memo)				0 3
8. INVENTORY ON ORDER EOP (memo)	337.1	0.0	335.7	1.4

9. NARRATIVE:

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	(3 4)	0 0	(3 2)	(0 2)
Strata Transfers	0 0	0 0	0 5	(0 5)
	0 0	0 0	0 0	0 0
	0.0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0.0	0 0	0.0	0 0
	0.0	0 0	0 0	0 0
Total	(3.4)	0.0	(2.7)	(0 7)

Prepared 1/12/98

Department of Navy Supply Mangement SM-4
INVENTORY STATUS
Budget Project 38
(Dollars in Millions)
FY1999

	Total	Mobilization	---- Peacetime ---- Operating	Other
1 INVENTORY BOP	201 0	0 0	151 9	49.1
2 BOP INVENTORY ADJUSTMENTS	0 0	0 0	0 0	0 0
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	0 0	0 0
B PRICE CHANGE AMOUNT (memo)	0 0	0 0	0 0	0 0
C INVENTORY RECLASSIFIED AND REPRICED	201 0	0 0	151 9	49 1
3 RECEIPTS AT STANDARD	1,071 0	0 0	1,071 0	0 0
4 SALES AT STANDARD	1,094 7	0 0	1,094 7	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0 0	0 0	0 0	0 0
B RETURNS FROM CUSTOMERS FOR CREDIT	0 0	0 0	0 0	0 0
C RETURNS FROM CUSTOMERS, NO CREDIT	0 1	0 0	0 1	0 0
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0 0	0 0
E TRANSFERS TO PROP DISPOSAL (-)	(0 4)	0 0	(0.4)	0 0
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(0 4)	0 0	(0.4)	0 0
G. OTHER (listed in Section 9)	6 4	0 0	6.4	0 0
H. TOTAL ADJUSTMENTS	5.7	0.0	5.7	0.0
6. INVENTORY EOP	183.0	0.0	133.9	49.1
7. INVENTORY EOP (REVALUED)	131 8	0.0	82.7	49 1
A APPROVED ACQUISITION OBJECTIVE (memo)				49 1
B ECONOMIC RETENTION (memo)				0 0
C CONTINGENCY RETENTION (memo)				0.0
D. POTENTIAL DOD REUTILIZATION (memo)				0 0
8. INVENTORY ON ORDER EOP (memo)	0.0	0 0	0.0	0 0

9 NARRATIVE:

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	19 8	0 0	19.8	0 0
Strata Transfers	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Standard Price Changes (Net)	(13 4)	0 0	(13 4)	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
Total	6.4	0.0	6.4	0.0

Prepared 1/12/98

Department of Navy Supply Mangement
INVENTORY STATUS
Budget Project 81
(Dollars in Millions)
FY1999

SM-4

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	7,165 2	24 8	2,916 6	4,223.8
2. BOP INVENTORY ADJUSTMENTS	(452 8)	(2 3)	(91 8)	(358.7)
A RECLASSIFICATION CHANGE (memo)	0 0	0 0	137 2	(137 2)
B PRICE CHANGE AMOUNT (memo)	(452 8)	(2 3)	(229 0)	(221.5)
C INVENTORY RECLASSIFIED AND REPRICED	6,712 4	22 5	2,824 8	3,865.1
3 RECEIPTS AT STANDARD	239 5	0 0	239 5	0.0
4 SALES AT STANDARD	696 2	0 0	696 2	0 0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	0 0	0 0	0 0	0 0
B RETURNS FROM CUSTOMERS FOR CREDIT	79 7	0 0	32 7	47 0
C RETURNS FROM CUSTOMERS, NO CREDIT	1,457 5	0 0	334 3	1,123 2
D RETURNS TO SUPPLIERS (-)	0 0	0 0	0 0	0 0
E TRANSFERS TO PROP DISPOSAL (-)	(1,500 0)	0.0	0.0	(1,500.0)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0 0	0.0	0 0	0.0
G. OTHER (listed in Section 9)	(693 1)	0.0	96 8	(789 9)
H. TOTAL ADJUSTMENTS	(655.9)	0.0	463 8	(1,119.7)
6. INVENTORY EOP	5,599.8	22.5	2,831.9	2,745.4
7. INVENTORY EOP (REVALUED)	3,278.8	14.4	1,801.1	1,463.3
A APPROVED ACQUISITION OBJECTIVE (memo)				847.8
B. ECONOMIC RETENTION (memo)				478.5
C. CONTINGENCY RETENTION (memo)				125 0
D. POTENTIAL DOD REUTILIZATION (memo)				12.0
8. INVENTORY ON ORDER EOP (memo)	249 3	0.0	249 3	0 0

9. NARRATIVE:

Other adjustments (Total posted to line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	(50 6)	0 0	(16 9)	(33 7)
Strata Transfers	0 0	0 0	756 2	(756 2)
Net/Standard Difference	(642 5)	0 0	(642 5)	0 0
	0.0	0 0	0 0	0 0
	0 0	0 0	0 0	0 0
	0.0	0 0	0.0	0 0
	0 0	0 0	0 0	0 0
Total	(693.1)	0.0	96.8	(789.9)

Prepared 1/12/98

Department of Navy, Supply Mangement SM-4
INVENTORY STATUS
Budget Project 85
(Dollars in Millions)
FY1999

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	20,550.3	13.2	8,902.4	11,634.7
2. BOP INVENTORY ADJUSTMENTS				
A RECLASSIFICATION CHANGE (memo)	(644.5)	(0.5)	1,319.5	(1,963.5)
B PRICE CHANGE AMOUNT (memo)	0.0	0.0	1,633.5	(1,633.5)
C INVENTORY RECLASSIFIED AND REPRICED	(644.5)	(0.5)	(314.0)	(330.0)
	19,905.8	12.7	10,221.9	9,671.2
3 RECEIPTS AT STANDARD	412.7	1.2	410.4	1.1
4 SALES AT STANDARD	2,488.3	0.0	2,488.3	0.0
5 INVENTORY ADJUSTMENTS				
A CAPITALIZATIONS + or (-)	827.2	0.0	827.2	0.0
B RETURNS FROM CUSTOMERS FOR CREDIT	207.2	0.1	129.4	77.7
C RETURNS FROM CUSTOMERS, NO CREDIT	7,773.4	0.0	4,379.0	3,394.4
D RETURNS TO SUPPLIERS (-)	0.0	0.0	0.0	0.0
E TRANSFERS TO PROP. DISPOSAL (-)	(2,043.6)	0.0	0.0	(2,043.6)
F ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	0.0	0.0	0.0	0.0
G OTHER (listed in Section 9)	(5,647.7)	0.0	(5,578.9)	(68.8)
H. TOTAL ADJUSTMENTS	1,116.5	0.1	(243.3)	1,359.7
6. INVENTORY EOP	18,946.7	14.0	7,900.7	11,032.0
7. INVENTORY EOP (REVALUED)	10,643.3	8.3	4,631.4	6,003.6
A APPROVED ACQUISITION OBJECTIVE (memo)				3,918.0
B. ECONOMIC RETENTION (memo)				1,134.1
C. CONTINGENCY RETENTION (memo)				904.1
D. POTENTIAL DOD REUTILIZATION (memo)				47.4
8. INVENTORY ON ORDER EOP (memo)	1,190.5	0.0	1,177.6	12.9

9. NARRATIVE:

Other adjustments (Total posted to line 5g)	Total	Mobilization	Operating	Other
Other Gains/Losses	(66.7)	0.0	43.5	(110.2)
Strata Transfers	0.0	0.0	(41.4)	41.4
Net/Std Difference	(5,581.0)	0.0	(5,581.0)	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
Total	(5,647.7)	0.0	(5,578.9)	(68.8)

Prepared 1/12/98

Supply Management Activity Group
WHOLESALE - SURCHARGE CALCULATION

SM-5B

SHIPS/AVIATION	FY 97	FY 98	FY 99
1. CY Net sales at Cost	2437.8	2258.8	2323.3
2. +/- PY Material Inflation	28.4	-47.3	-69.0
3. CY Net Sales @ PY Cost	2466.3	2211.6	2254.2
4. PY Surcharge	16.0%	27.4%	57.5%
5. CY Net Sales at PY Prices	2861.1	2817.9	3561.4
1A. CY Net sales at Cost	2437.8	2258.8	2323.3
4A. CY Surcharge	27.4%	57.5%	44.3%
5A. CY Net Sales at CY Prices	3106.8	3557.3	3352.8
PERCENT CHANGE TO CUSTOMER	8.6%	26.3%	-5.8%

WORKING CAPITAL FUND CAPITAL INVESTMENT SUMMARY
COMPONENT: DEPARTMENT OF THE NAVY
ACTIVITY GROUP: SUPPLY MANAGEMENT
SUB-ACTIVITY GROUP: NAVAL SUPPLY SYSTEMS COMMAND
FY 1999 PRESIDENT's BUDGET
JANUARY 1998
($ IN MILLIONS)

LINE NUMBER	ITEM DESCRIPTION	FY 1997		FY 1998		FY 1999	
		QUANTITY	TOTAL COST	QUANTITY	TOTAL COST	QUANTITY	TOTAL COST
	1a. Equipment Non ADPE/Telecom (>500,000)		4.707		4.140		3.475
0001	Replacement	VAR	0.306	VAR	0.440	VAR	0.375
0002	Environmental Compliance	VAR	4.401	VAR	3.700	VAR	3.100
	Subtotal Equipment (>500,000)		4.707		4.140		3.475
0003	1b. Equipment Non ADPE/Telecom (>25,000<500,000)	VAR	5.194	VAR	4.230	VAR	4.430
	Subtotal Non-ADPE Equipment (>25,000<500,000)		5.194		4.230		4.430
	2. ADPE/Telecom Equipment (>100,000)						
0004	Computer Hardware (production)	VAR	7.978	VAR	9.440	VAR	7.031
	Subtotal ADP Equipment (>100,000)		7.978		9.440		7.031
	3. Software Development (>100,000)		8.702		23.119		15.716
0005	APADE	3.17	0.256		0.000		0.000
0006	CD ROM	6.33	0.512		0.000		0.000
0007	E-MAIL	1.05	0.065		0.000		0.000
0008	ITIMP EDI UADPS-ICP	3.17	0.256	30.60	2.638	32.90	2.911
0009	LAN	4.22	0.341		0.000		0.000
0010	EPOS [AIT]	4.85	0.392	5.50	0.475	5.50	0.487
0011	UADPS-SP/U2	52.56	4.247	67.80	5.852	67.80	6.000
0012	Transportation	9.50	0.767	6.50	0.561	6.50	0.575
0013	PBX Switch	1.00	1.090		0.000		0.000
0014	UICP Modification	VAR	0.756		0.000		0.000
0015	YEAR 2000		0.000	27.60	2.381	12.90	1.137
0016	CASH Model		0.000	1.00	0.012	1.00	0.006
0017	JLSC LEGACY Systems		0.000	VAR	11.200	VAR	2.800
0018	Commercial Asset Visibility [CAV II]	-	0.000	-	0.000	VAR	1.300
0019	Math Models	-	0.000	-	0.000	VAR	0.500
	Subtotal Software Development		8.702		23.119		15.716
0020	4. Minor Construction	VAR	1.200	VAR	1.269	VAR	1.269
	Subtotal Minor Construction		1.200		1.269		1.269
	GRAND TOTAL CAPITAL PURCHASE PROGRAM		27.780		42.198		31.921

610

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				01 ITEM DESCRIPTION AUTOMATED MATERIAL HANDLING					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
01 AUTOMATED MATERIAL HANDLING SYSTEM	VAR	VAR	306	VAR	VAR	440	VAR	VAR	375

Narrative Justification:

Automated Material Handling System - 1997 - $300K: Purchase and install 8 Horizontal NISTARS Carousels, FISC Pearl Harbor. Conveyor system currently installed has outlived its useful life span. Currently it is costing Pearl $75K per year to maintain the system. Due to the age of the system replacement parts are hard to requisition and many have to be special made. This process takes long periods of time and are excessively high for procurement. The system has no safety devices for the protection of the employees operating the conveyor and has become high risk. The conveyor ties three buildings together for the logistical movement of material in and out of the warehouses and must be operational at all times. Funding for this project will allow FISC Pearl Harbor to increase utilization of both manpower and equipment and will improve the efficiency and productivity of warehouse operations. If not funded, this system will become a further safety hazard that continues to cost the Navy excess dollars to maintain.

1998: (440K) Continuation of replacement of 35 year old conveyor system at Pearl Harbor.

1999: (375K) Procurement and installation of 8 horizontal storage carousels at FISC Pearl Harbor. Each carousel will hold 46 bins which can be configured in various ways to hold as many as 1,700 individual storage locations per carousel. All items in the carousels will be NISTARS controlled fast movers. These carousels will replace the pallet racks in building 474-1 and will allow for 8 logical aisles and increase the density and pick rate in building 474 and will be tied into the new conveyor system.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				02 ITEM DESCRIPTION HAZARDOUS INVENTORY CONTROL SYSTEM					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
02 HAZARDOUS INVENTORY CONTROL SYSTEMS	VAR	VAR	4,401	VAR	VAR	3,700	VAR	VAR	3,100

Narrative Justification:

Continued funding is required for execution of the Hazardous Material Control and Management Program by establishing Hazardous Material Minimization Centers and Hazardous Material Inventory Control systems. These systems will ensure shore activity compliance with Executive Order 12856 of 3 Aug. 93, "Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements." Capital equipment and automated systems are required to manage these specialized materials, track specific chemical issues to industrial and work processes, return excess chemicals to supply systems, management of distribution control centers, and redistribution or disposal of excess chemicals through the Defense Reutilization and Marketing Service [DRMS]. Delay in funding these systems will place Navy Commanding Officers at risk in developing systems to comply with the Executive Order. Deficiencies may result in criminal and civil penalties under Federal and State statutes. Investment requirements are in three distinct sub-categories.

FISC HAZMAT MANAGEMENT INITIATIVES: FY97 $1,655; FY98 $1,470; FY99 $1,090. Funds are for establishment of comprehensive material minimization [HAZMIN] centers at all FISCs and regional partners. Projected funding requirements are based on detailed estimates for startup of FISC single service point at NAVBASE San Diego which was funded in FY92 as well as initial rough order magnitude [ROM] estimates for all other FISCs. These sites require a capital investment of approximately $300-400K each to procure state-of-the-art inventory management systems and warehouse equipment. The Fiscal Years 1997, 1998 and 1999 funding covers 4-6 equipment installations per year. This will result in better customer coverage in each region, more efficient use of available facilities, and Navy-wide implementation of HAZMINCENT concept.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE	02 ITEM DESCRIPTION
NAVY/SUPPLY MANAGEMENT/JAN 1998	HAZARDOUS INVENTORY CONTROL SYSTEM

HSMS [formerly HMC&M] TRACKING SYSTEM EQUIPMENT: FY97 $2,300; FY98 $1,750; FY99 $1,650. This project, now called the Hazardous Substance Management System is required for procurement of hardware and software to support installation of a comprehensive cradle-to-grave hazardous substance management system. HSMS has been selected by DUSD [ES] and ASD as the standard DoD migration system for tracking hazardous chemicals. During, the last year, the Defense Environmental Corporate Information Managements [DESCIM] and Logistics Corporate Information Management [LOGCIM] program offices have agreed to merge all requirements for ashore activity hazardous substance management into a single system, HSMS. LOGCIM and DESCIM have jointly funded a project to enable incorporation of the LOGCIM's DM-HMMS functionality into the HSMS system. In any case, services now have the responsibility for funding all hardware requirements to support hazardous substance management systems. Funds for this purpose are not available through either CIM office. Prior year funds were used for procurement of systems to support various Naval activities, including Shipyards, Public Works Centers, Fleet and Industrial Supply Centers, Air Stations and shore facilities. The Fiscal Year 1997, 1998 and 1999 requirements will fund an additional 30-40 systems for operational shore activities in each fiscal year.

AFLOAT HAZMAT CONTROL SYSTEM IMPLEMENTATION: FY97 $500K; FY98 $480K; FY99 $360K. Funding is required to continue outfitting all Navy afloat commands with necessary hardware and software to operate the Hazardous Material Inventory Control System [HICS], a method for managing hazardous material which minimizes usage and reduces waste. HICS is a shipboard management system unique to the Navy and, as such, it does not overlap with any other hazardous material management system, including HSMS and DM-HMMS. Earlier funding resulted in installation of approximately 200 systems on large and medium sized ships. Fiscal Year 1997, 1998 and 1999 requirements will cover installation on remaining ships, including submarines, as well as, maintenance and update of installed systems.

613

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				03 ITEM DESCRIPTION OTHER SUPPLY SUPPORT EQUIPMENT					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
03 SHOP AND OFFICE EQUIPMENT	VAR	VAR	680			0			0

Narrative Justification:

Shop and Office Equipment: Due to the increase in the expense/investment threshold, Shop and Office Equipment will be funded by the Operating Budget beginning in FY98.

614

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				03 ITEM DESCRIPTION CIVIL ENGINEERING SUPPORT EQUIPMENT					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
03 CIVIL ENGINEERING SUPPORT EQUIPMENT	VAR	VAR	2,367	VAR	VAR	2,230	VAR	VAR	2,230

Narrative Justification:

Civil Engineering Support Equipment: This program funds the procurement of overaged, poor condition work vehicles utilized for Public Works functions from delivering mail and moving materials to excavating equipment and snow removal equipment. Replacement costs range from $12,000 for a compact pickup truck to $225,000 for a wheel mounted 12-35 ton crane. Equipment that is not replaced at the end of its expected life becomes uneconomical to maintain, unsafe and unreliable. The NAVSUP claimancy currently has 425 vehicles which are overage and in poor condition. Current replacement costs total $12,000,000.

615

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				03 ITEM DESCRIPTION FORKLIFT TRUCKS					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
03 FORKLIFT TRUCKS	63	VAR	1,661	69	VAR	2,000	51	VAR	2,200

Narrative Justification:

Forklift Trucks: This program funds the procurement of new/initial outfitting and replacement material handling equipment [MHE] requirements for the Fleet and Industrial Supply Centers [FISC] and Inventory Control Points [ICP].

Equipment which is not replaced at the end of its expected service life becomes uneconomical to maintain, unsafe, unreliable and unable to sustain increased operational tempos. Many of the over-aged forklifts currently in service are technologically obsolete, impacting mission capabilities. Additional intangible costs are also incurred, such as: increased manpower requirements, productivity losses, ineffective space utilization, material damage and leasing costs. New replacement equipment enables activities to meet handling and logistical requirements in an efficient and effective manner.

The fine tuning of requirements and identification of additional requirements are accomplished through an annual data call. This review reports on utilization and condition codes of MHE equipment ashore and afloat.

Relative to BRAC, only about 30 units have been acquired as a result of BRAC decisions and these units have required extensive overhauling. Most equipment has been awarded to the local economies by the respective base commanders.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				03 ITEM DESCRIPTION COLLATERAL EQUIPMENT					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
03 COLLATERAL EQUIPMENT	VAR	VAR	486			0			0

Narrative Justification:

Collateral Equipment: Due to the increase in the expense/investment threshold, Collateral Equipment will be funded by the Operating Budget beginning in FY98.

617

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				04 ITEM DESCRIPTION BLC					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
04 BLC	VAR	VAR	2,139	VAR	VAR	2,265	VAR	VAR	2,333

Narrative Justification:

Base Level Computing: Base Level Computing [BLC] is a program designed to replace and upgrade the aging interface between the end user at the keyboard and the Defense Information Systems Office [DISO] data center, for NAVSUP managed activities and other activities using the Uniform Data Processing System for Stock Points [UADPS-SP]. This interface will also support the CIM system which ultimately replaces UADPS-SP. The overall program concept is described in a Mission Need Statement [MNS] approved by the Assistant Secretary of the Navy [ASN[RD&A]] and milestone decision authority was delegated to the Naval Supply Systems Command [NAVSUP]. This program consists of a number of individual and independent Abbreviated System Decision Papers [ASDPs] which conform to the overall concept described in the approved MNS. The ASDPs include the justification and economic analysis associated with the work at each individual site.

The BLC Program is phased over time and the initial installations should be completed in FY97 although equipment will be replaced continously in the future. During FY96 and FY97 we will continue equipment installations at Fleet and Industrial Supply Centers [FISCs] which began in FY94 and FY95 and will begin work at other smaller activities. The ultimate goal is to build an architecture which will support a three tier computing and information system architecture which locates processing at the most economical and technically efficient level, and is consistent with overall DoD information system plan. If executed in accordance with the overall plan described in the MNS, the BLC Program will, over time, significantly improve ashore supply processing for the Fleet.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				04 ITEM DESCRIPTION AUTOMATED IDENTIFICATION TECHNOLOGY					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
04 AIT (EQUIPMENT)	VAR	VAR	2,298	VAR	VAR	6,385	VAR	VAR	4,548

Narrative Justification:

AIT: AIT is automated data capture technology. The Logistics Applications of Automated Marking and Reading Symbols [LOGMARS] is a major initiative under the AIT umbrella. LOGMARS provides ships and stock points with the capability to "read" bar coded information for entry into existing computer systems. LOGMARS has generated significant cost avoidance savings in the functional area of physical inventory, inventory location survey, material receiving and issue, and government property accounting as documented in the final report of the OSD-sponsored LOGMARS Steering Group. In order to utilize bar coded data, the funding will provide the necessary equipment and programs to interface with existing computer systems. With greater emphasis on acquisition of commercial products and the associated bar codes, this will place greater emphasis on automated source data entry initiatives. Increased productivity, data accuracy, and visibility and control of inventories will be realized with LOGMARS technology.

Funding continues to equip Navy activities ashore and afloat with bar code equipment and programs. As equipment ages and technology advances, there will continue to be a need to replace obsolete equipment and old equipment that breaks down as the cost of repair approaches the cost of replacement. Also, replacement equipment is required when the equipment is no longer being manufactured. DMRD 987 Inventory Reduction Plan Improvement specifically cites LOGMARS as a new technology that the services must continue to implement to enhance readiness, responsiveness, productivity, inventory control and the overall quality of support.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				04 ITEM DESCRIPTION UADPS-SP/U2					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
04 UADPS-SP/U2 (EQUIPMENT)	VAR	VAR	544	VAR	VAR	500			0

Narrative Justification:

UADPS-SP: The Uniform Automated Data Processing System for Stock Points [UADPS-SP] is the standard Navy-wide automated supply and financial management application system designed to support Navy operating forces. An enhancement of UADPS-SP, called UADPS-SP/U2, expands the current UADPS-SP functionality to incorporate the concept of "regionalization" of inventory management within the Department of Defense. These capital investment requirements support peripheral and telecommunications infrastructure required to support implementation of UADPS-SP/U2 at all potential Fleet and Industrial Supply Centers [FISCs] and partner sites [the FISCs become the Navy's primary provider of regional logistics support services]. All expenditures of these funds are supported by business case analyses. These investments fully support both the Defense Information Infrastructure [DII] initiative and the Regional Maintenance plan endorsed by the Chief of Naval Operations.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998					04 ITEM DESCRIPTION MATERIAL MGMT STND SYSTEM [MMSS]				
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
04 MATERIAL MANAGEMENT STANDARD SYSTEM [EQUIP]	VAR	VAR	228			0			0

Narrative Justification:

Material Management Standard System: These funds are to support the fielding of the Material Management Standard System [MMSS] being developed by the Joint Logistics Systems Center [JLSC] to the Navy and Marine Inventory Control Points [ICPs]. During the FY96/97 OSD/OMB Budget Review, the responsibility for acquisition of MMS hardware for Fiscal Years 1995 - 1997 was transferred from the JLSC to the Military Services and the Defense Logistics Agency [DLA].

The MMS was created in response to the DoD initiative to standardize logistics systems across DoD. The JLSC working with the Military Services and DLA has evaluated the processes of the DoD ICPs, selected and developed the optimum automated information systems to support improved standard business practices. This request funds the continued deployment with connectivity of fourteen systems to the Navy Inventory Control Point [ICP, Mechanicsburg and Philadelphia, PA]; and two deployments with connectivity to the Marine Corps Logistics Base, Albany, GA.

The MMS will provide a radically improved functional capability to the Military Services and DLA, reduce DoD costs for information services and establish an information systems infrastructure on which DoD can improve the way it does business. Specific improvements include:

Reduced inventories through better management information on purchase decisions.
Reduced labor requirements for material management processes.
Reduced Information Technology costs.
Improved visibility and control of assets.

Once implementation is completed, legacy applications will be reduced or eliminated, significantly decreasing ADP costs.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE	04 ITEM DESCRIPTION
NAVY/SUPPLY MANAGEMENT/JAN 1998	MATERIAL MGMT STND SYSTEM [MMSS]

The projected reductions in the DoD inventories cannot be met without an improved supply information management infrastructure. In addition, the Department cannot comply with its objective to standardize information systems and business practices and effectively implement throughout the Department ICPs. This initiative supports the sustainment of readiness in a downsizing environment and establishes the baseline for shifting to a 21st century logistics system.

629

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				14 ITEM DESCRIPTION UICP MODIFICATION					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
04 UICP MODIFICATION [EQUIP]	VAR	VAR	2,769	VAR	VAR	290	VAR	VAR	150

Narrative Justification:

UICP MODIFICATION: NAVSUP is consolidating and migrating the Uniform Inventory Control Point [UICP], the Material Financial Accounting System, [MFCS] and the Uniform Automated Data Processing System [UADPS] Applications E and F into a modernized three tier client server DISA COE/DII compliant computing architecture.

Modernization and consolidation of these system began in FY97 and once fully implemented by FY99, this project will provide the technical infrastructure for rapid future systems reengineering using 4+ generation development tools, greater data flexibility within the relational database environments, provide base level end users direct and transparent access to data and provide a migration strategy to achieve full DISA COE systems compliance.

Underlying these modernization and consolidation objectives is a continuing budgetary requirement to reduce the costs of business by reducing systems enhancement and reengineering development cycle times and the associated DISA mainframe development and production access charges. This strategy also seems to exploit information technology and technical tools not available as recently as two years ago to dramatically reduce the cost of rearchitecting and transforming legacy COBOL mainframe systems into flexible, standards based, three tier open systems to achieve these business and budgetary goals.

Budget exhibit inputs support remaining out year hardware infrastructure investment costs required to support this migration project.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				05 ITEM DESCRIPTION APADE					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
05 APADE	3.17	80.800	256			0			0

Narrative Justification:

APADE: These Central Design Agency [CDA] personnel are modifying Automation of Procurement and Accounting Data Entry [APADE] System programs for enhancements to accommodate small purchase, Electronic Data Interchange and non-standard requisitioning by Fleet and Industrial Supply Centers [FISCs].

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				06 ITEM DESCRIPTION COMPACT DISC-READ ONLY MEMORY					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
06 CD-ROM (CDA)	6.33	80.800	512			0			0

Narrative Justification:

CD-ROM: The Compact Disc-Read Only Memory [CD-ROM] provides information digitally for direct use with personal computers replacing both paper and microfiche as a means to distribute manuals, publications, and data bases. CD-ROM is one of the technologies whose primary importance is increasing the currency, consistency, security and accessibility of information. This product provides massive storage capacity, saves money on warehousing and mailing costs, and increases productivity by providing data in a rapid lookup and retrieval mode. A single CD-ROM can hold 300,000 pages of text which equates to 2,500 pounds of paper, takes up to 120 feet of shelf space and costs $958 to mail. A single CD-ROM weighs 0.7 ounces, takes less than an inch of space and costs $0.75 to mail. CD-ROM is the most practical and economical media for the multiple distribution of digital data. Real savings are to be achieved from the reduction of printing, decreased mailings, less necessary manpower for the handling of documents, and the diminished need for warehousing space.

625

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION

($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				07 ITEM DESCRIPTION ELECTRONIC MAIL					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
07 E-MAIL (CDA)	1.05	80.800	85			0			0

Narrative Justification:

E-MAIL: NAVSUP is installing a corporate wide electronic mail facility with Hub located in Mechanicsburg, PA. We will use a small number of Fleet Material Support Office [FMSO] resources to manage the mail hub, install new users, and provide new Internet capabilities through the installation of a new Internet Domain Name System.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998					08 ITEM DESCRIPTION UADPS-ICP				
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
08 UADPS-ICP (CDA)	3.17	80.800	256	30.6	86.279	2,638	32.9	88.473	2,911

Narrative Justification:

UICP: These Central Design Agency [CDA] resources will be modifying ADP programs for enhancements to Integrated Technical, Item Management and Procurement [ITIMP] to accommodate Inventory Control Point [ICP] procurement Electronic Data Interchange [EDI] including expanding upon baseline transactions to incorporate the 841 transaction set for commercial and organic manufacturing solicitations.

The growth in the number of workyears reported is attributable to the Corporate Information System [CIS]. It is an executive information/decision support system that allows senior headquarters management, functional managers, field activities and NAVSUP customers to view performance data for specific activities within the NAVSUP claimancy as well as overall supply readiness metrics. The development effort will provide the CIS with direct data feeds form the UICP database. The current system requires large amounts of UICP data to be manually entered into CIS spreadsheets. The automation of the data feeds will not only eliminate the manual effort but allow for additional data to be included in CIS, thereby improving the utility of the CIS.

FY97 also includes software conversion effort required to migrate UICP COBOL mainframe applications to a modernized three-tiered client/server Open Systems Environment providing a more direct and transparent access of database resources to the base-level end user. This will streamline business processes and reduce systems enhancement and reengineeering development cycle times which reduce mainframe dependency and mainframe access charges.

627

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				09 ITEM DESCRIPTION LAN					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
09 LAN (CDA)	4.22	80.800	341			0			0

Narrative Justification:

LAN: NAVSUP will be installing Local Area Networks in a number of small activities that are users of the UADPS-SP. NAVSUP plans to use FMSO resources for the installations. These resources will also be used to establish a help desk to provide technical support and trouble shooting services to activities with installed LANs. The LAN installations at small sites are supported by an approved Abbreviated System Decision Paper [ASDP].

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998					10 ITEM DESCRIPTION EPOS [AIT] CDA				
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
10 EPOS [AIT] CDA	4.9	80.800	392	5.5	86.279	475	5.5	88.473	487

Narrative Justification:

AIT: Automated Information Technology initiatives include the electronic Point of Sale [EPOS]. AIT provides ships and stock points with the capability to "read" bar coded information for entry into existing computer systems. Increased productivity, data accuracy, and visibility and control of inventories will be realized with AIT technology. These benefits contribute to improved Fleet Support and readiness.

The CDA efforts reflected here also support software modification required to implement Electronic Point of Sale [EPOS] initiatives within the AIT technology. EPOS is an automated retail program designed to provide accurate material and financial accountability to all DON activities. EPOS is currently being run as a proprietary system. Hardware and some software is available only from Dataflow Technologies, Inc. The software coming out of the design process would break that proprietary lock. This is important because the hardware currently being used is nearing the end of its life cycle. Replacement of it through Dataflow would be expensive. The new software runs on commercial off-the-shelf [COTS] hardware. Replacement of the old hardware with COTS hardware would be much less expensive. In addition, the new software is being developed with Year 2000 processing capabilities. Should we not support implementation of this software, we will have to invest in incorporating Year 2000 processing into our current system.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998					11 ITEM DESCRIPTION UADPS-SP/U2 [CDA]				
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
11 UADPS-SP/U2 (CDA)	52.6	80.800	4,247	67.8	86.279	5,852	67.8	88.473	6,000

Narrative Justification:

UAPDS-SP: The Uniform Automated Data Processing System for Stock Points [UADPS-SP] is the Navy-wide automated supply, financial and inventory management application system designed to support Navy operating forces. It is a Navy legacy system operated at over 35 Naval Commands including Fleet and Industrial Supply Centers [FISCs], Naval Air Stations, Naval Shipyards and Training Centers. The UADPS-SP system provides uniform logistics data support to the Chief of Naval Operations, Commander in Chief Atlantic [CINCLANTFLT], Commander in Chief Pacific Fleet [CICNPACFLT], Chief of Naval Education and Training, Chief of Naval Reserves, Comptroller of the Navy, and Commandant of the Marine Corps. This system is operated primarily at Defense Information Systems Agency [DISA] ADP installations and at several remote activities.

The Central Design Agency [CDA] efforts reflected herein are directed toward complying with OSD/Congressionally-mandataed changes, and corrective software maintenance efforts. An additional CDA effort for this AIS has been directed toward incorporating the FISC facts of CNO Management Review Initiative #20 which provides the necessary functionality to complement Corporate Information Management [CIM] enterprise-wide systems. Specifically, these efforts provide the necessary management tools:

To reduce inventory and infrastructure costs through centralized inventory management and expanded regional asset visibility.
To supply centralized management of separate consumer inventories to the "wrench turner" level.
To consolidate geographic "stovepipe" inventories under a single ADP system to achieve personnel and inventory reductions and savings.
To expand consumer level asset visibility and sharing.
To achieve cost avoidance as legacy systems are eliminated.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				12 ITEM DESCRIPTION TRANSPORTATION					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
12 TRANSPORTATION (CDA)	9.5	80.800	767	6.5	86.279	561	6.5	88.473	575

Narrative Justification:

Transportation: The funds provide for the development of standardized data sets for electronic commerce, as well as, the exchange of information between the Navy Material Transportation Office [NAVTRANS] Operations and Management Information System [NAOMIS] and other migratory transporations systems.

631

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				13 ITEM DESCRIPTION PBX SWITCHBOARD					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
13 PBX SWITCHBOARD	1	VAR	1,090			0			0

Narrative Justification:

PBX Switchboard: The existing services at FISC Norfolk are currently being provided by Naval Computer and Telecommunications Area Master Station Atlantic Command [NCTAMSLANT], Norfolk, VA. Installing a Private Branch Exchange [PBX] switch would allow dealing diretly with a commercial communications vendor. Objectives of this effort include:

- Decreasing the number of trunk lines.
- Reducing cost of service/lines.
- Reduce time on serviced calls.

Norfolk currently has over 2000 Centrex lines [telephone pairs] costing $800,000 annually. Installing a PBX system at Norfolk will allow the volume of the existing 2000 Centrex lines to be carried on 111 trunk lines. Cost for 111 trunk lines is $10,000 annually. the capital investment for a PBX switching system for 111 truck lines is estimated at $840,000. The cost benefit comparison of Centrex [$800K] every year favors a PBX with first year purchase cost of $840K, installation costs of $250K plus $410K recurring costs. Maintenance costs for Centrex and PBX systems are similar.

633

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				14 ITEM DESCRIPTION UICP MODIFICATION					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
14 UICP MODIFICATION [CDA]	VAR	VAR	756			0			0

Narrative Justification:

UICP MODIFICATION: NAVSUP is consolidating and migrating the Uniform Inventory Control Point [UICP], the Material Financial Accounting System [MFCS], and the Uniform Automated Data Processing System [UADPS] Applications E and F into a modernized three tier client server DISA COE/DII compliant computing architecture.

Modernization and consolidation of this system will provide the technical infrastructure for rapid future systems reengineering using 4+ generation development tools, greater data flexibility within the relational database environments, provide base level end users direct and transparent access to data and provide a migration strategy to achieve full DISA COE systems compliance.

Underlying these modernization and consolidation objectives is a continuing budgetary requirement to reduce the costs of business by reducing systems enhancement and reengineering development cycle times and the associated DISA mainframe development and production access charges. This strategy also seems to exploit information technology and technical tools not available as recently as two years ago to dramatically reduce the cost of rearchitecting and transforming legacy COBOL mainframe systems into flexible, standards based, three tier open systems to achieve these business and budgetary goals.

Budget exhibit inputs supportsoftware [CDA] infrastructure investment costs required to support this migration project.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				15 ITEM DESCRIPTION YEAR 2000 [Y2K]					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
15 YEAR 2000 [Y2K] (CDA)			0	27.6	86.279	2,381	12.9	88.473	1,137

Narrative Justification:

YEAR 2000: Preparation for the upcoming millennium requires a complete corporate computer program portfolio review to ensure that the new century does not create critical system failures due to date driven information. This funding provides for: [1] a review of each corporate NAVSUP system [those maintained by FMSO] and determines whether any required Y2K changes to the system will come via system redesign [such as rehosting TANDEM applications], system changes ["renewal"] or whether the system will be retired/replaced and, therefore, no Y2K changes need to be made; [2] an assessment, using a COTS product, of each NAVSUP corporate system to be renewed, to determine the extent of changes required; [3] development of the renewal strategy for each system to be renewed [i.e., change data base structure, use macros, perform algorithmic update, etc.]; and [4] the accomplishment of a portion of the changes necessary to renew UICP, U2, APADE and other smaller systems.

[This does not include funding for Y2K changes to most TANDEM based systems, since separate funding sources are providing for those system's redesign and those deliverables, in most cases, are already Y2K compliant.]

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				16 ITEM DESCRIPTION CASH MODEL					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
16 CASH MODEL			0	1	VAR	12	1	VAR	6

Narrative Justification:

CASH Model: In order to improve Navy Working Capital Fund (NWCF) cash projections, a cash projection model will be centrally procured for NWCF activities. Each NWCF activity must purchase a license for the use of this model. As the total cost of this central procurement will exceed $100K, its cost is a capital purchase expenditure.

635

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998							17 ITEM DESCRIPTION JLSC LEGACY SYSTEMS		
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
17 JLSC LEGACY SYSTEMS			0	VAR	VAR	11,200	VAR	VAR	2,800

Narrative Justification:

Corporate Logistics Engineering Project:

Navy funding of legacy software development and modernization for the Uniform Inventory Control Point (UICP) application has been frozen since 1992 due to the DOD Corporate Information Management (CIM) initiative in the Material Management (MM) business area. The inability to improve or enhance UICP functionality over the past several years, with the exception of a few JLSC funded efforts, has created a gap between business problems and their information technology (IT) solutions. These prioritized requirements are listed below:

Today's UICP system uses a proprietary database structure that is very complex. Deficiencies include:

Difficult to integrate commercial-off-the-shelf (COTS) solutions.
Difficult to integrate Corporate Information Management (CIM) products.
Difficult and costly to rapidly respond to business process changes.
Not compatible with the DISA Common Operating Environment (COE).

The redesign/rehost effort will deliver a COE compliant, relational database structure and provide a business process reengineering (BPR) platform that will facilitate our ability to share DOD national logistics data with NAVSEA and NAVAIR activities operating under the regional maintenance concept. Most importantly this effort will increase our information technology (IT) ability to rapidly turn-around business process improvement initiatives.

COMPONENT/BUSINESS AREA/DATE	17 ITEM DESCRIPTION
NAVY/SUPPLY MANAGEMENT/JAN 1998	JLSC LEGACY SYSTEMS

Disparate Database Project:

Currently, we use legacy systems and databases to track and monitor the procurement and delivery of supplies and materials. A burdensome aspect of this process is that it lacks the ability to access and query multiple data files in a "one screen" fashion. The purpose of the Accessing Disparate Databases project is to establish connections to these legacy databases and demonstrate the utility of these connections by creating an intranet application (web pages) that uses these connections to multiple legacy databases and displays the data on a single screen. The project is currently expected to perform system and database analysis to evaluate 25 disparate databases. Databases will then be prioritized and database connections developed for a pilot program consisting of the two most important databases in the priority sequence. The project will attempt to prove/disprove the viability of the JCALS Global Data Management System (GDMS) as the middleware product to develop these database connections. If GDMS is proven to be inadequate, the project will then select a commercial-off-the-shelf (COTS) database management middleware product to establish the database connections.

In addition, $120K is allocated to sustain (maintenance and modification of software code) the Defense Supply Expert (DESEX) program. The DESEX enables field customers to conduct supply transactions in an interactive environment, utilizing a telephone voice response system and a touch-tone keypad.

637

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				18 ITEM DESCRIPTION COMMERCIAL ASSET VISIBILITY					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
18 COMMERCIAL ASSET VISIBILITY [CAV II]			0			0	VAR	VAR	1,300

Narrative Justification:

This effort includes the Commercial Asset Visibility (CAV) program, which is allocated $3,900K, will provide for upgrade of the CAV software to include a Windows 95 user interface, a modernized SQL compliant desktop database, and new user functional requirements. CAV will also deploy hardware and software upgrades in CAV version 1.10 at 350+ sites during FY99. The purpose of CAV is to provide asset visibility of repairable items undergoing repair at a commercial repair sites.

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				19 ITEM DESCRIPTION MATH MODELS					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
19 MATH MODELS			0			0	VAR	VAR	500

Narrative Justification:

The effort is to provide sustainment (maintenance and modification of software code and database design) for the Math Models program. Math Models provides users with a number of key capabilities;
- The information necessary to set parameters used in DoD requirements computation systems (what-if analysis capability);
- The capability for computing wholesale inventory, procurement, and repair levels by item or groups of items. The computations include backorder and performance projections and are performed for consumable and repairable items, as well as, families of items (family processing capability) as required; and,
- The capability for computing retail item requirements considering the cost of the item and its individual contribution to achieving weapon system availability targets (Multi-Link capability).

633

SUPPLY OPERATIONS CAPITAL PURCHASES JUSTIFICATION
($ IN THOUSANDS)

FY 1999 PRESIDENT's BUDGET

COMPONENT/BUSINESS AREA/DATE NAVY/SUPPLY MANAGEMENT/JAN 1998				18 ITEM DESCRIPTION MINOR CONSTRUCTION					
ELEMENTS OF COST	QTY	FY 1997 UNIT COST	TOTAL COST	QTY	FY 1998 UNIT COST	TOTAL COST	QTY	FY 1999 UNIT COST	TOTAL COST
20 MINOR CONSTRUCTION	VAR	VAR	1,200	VAR	VAR	1,269	VAR	VAR	1,269

Narrative Justification:

Minor Construction: Minor construction funds are used for alterations to facilities to accommodate changes in mission, or methods of operations, and to accomplish minor facility improvements having an impact on the work environment. Although these types of alterations are accomplished at a relatively small cost, they have significant impacts on the methods or economies of performing the work. Each minor construction project must be less that $500,000.

Projects planned for FY98 include the following:

FISC Puget Sound Water Distribution at Manchester	$360K
FISC Puget Sound HAZFLAM Warehouse Overhead Door Power Operators	$120K
NAVICP-Mechanicsburg Bldg 307/308 Base Exterior Architecture Plan Improvements	$320K
NAVICP-Philadelphia Parking & Traffic Base Exterior Architecture Plan Improvements	$170K
FISC San Diego Bldg 1 [6th Floor] Renovations	$179K
Change Orders to Prior Year Contract Awards	$120K
	$1269K

Projects planned for FY99 include the following :

FISC San Diego Bldg 1 [7th Floor] Renovations	$265K
FISC Norfolk Cheatham Annex Environmental Facility	$259K
NAVICP-Mechanicsburg Bldg 311 HVAC Alterations	$300K
NAVICP-Mechanicsburg Bldg 311/312 Base Exterior Architecture Plan Improvements	$150K
NAVICP-Mechanicsburg Bldg 208-211 Base Exterior Architecture Plan Improvements	$175K
Change Orders to Prior Year Contract Awards	$120K
	$1269K

DEPARTMENT OF THE NAVY
ACTIVITY GROUP: SUPPLY MANAGEMENT
SUB-ACTIVITY GROUP: NAVAL SUPPLY SYSTEMS COMMAND
FY 1997
FY 1999 PRESIDENT's BUDGET ESTIMATE

Title/Description	Approved ($M)	Reprogs	CPP OA ($M)	Actual Obs	Asset/ Deficiency	Explanation/Reason for Change
Equipment Non ADPE/Telecom	9.949	.000	9.949	9.901	.000	
ADPE/Telecom Equipment	5.299	2.800	8.099	7.978	.000	*UICP Mod-HW - from Minor Const
Software Development	8.718	.000	8.718	8.701	.000	
Minor Construction	4.000	-2.800	1.200	1.200	.000	Minor Const - to UICP Mod-HW
Reliability & Maintainability	.000	.000	.000	.000	.000	
Total Capital Investment	27.966	.000	27.966	27.780	.000	

Exhibit Fund 9d
Capital Budget Execution

DEPARTMENT OF THE NAVY
ACTIVITY GROUP: SUPPLY MANAGEMENT
SUB-ACTIVITY GROUP: NAVAL SUPPLY SYSTEMS COMMAND
FY 1998
FY 1999 PRESIDENT's BUDGET ESTIMATE

Title/Description	Approved ($M)	Reprogs	Revised Request ($M)	Asset/ Deficiency	Explanation/Reason for Change
Equipment Non ADPE/Telecom	8.370	.000	8.370	.000	
ADPE/Telecom Equipment	9.150	.290	9.440	.000	UICP Mod-HW from UICP Mod-SW
Software Development	12.266	10.853	23.119	.000	UICP Mod-SW to UICP Mod-HW CD-ROM & Trans to Minor Const Add Cash Model & JLSC Legacy Sys
Minor Construction	1.200	.069	1.269	.000	Minor Const from CD-ROM & Trans
Total Capital Investment	30.986	11.212	42.198	.000	

Exhibit Fund 9d
Capital Budget Execution

DEPARTMENT OF THE NAVY
ACTIVITY GROUP: SUPPLY MANAGEMENT
SUB-ACTIVITY GROUP: NAVAL SUPPLY SYSTEMS COMMAND
FY 1999
FY 1999 PRESIDENT's BUDGET ESTIMATE

Title/Description	Approved ($M)	Reprogs	Revised Request ($M)	Asset/ Deficiency	Explanation/Reason for Change
Equipment Non ADPE/Telecom	7.755	.150	7.905	.000	AMHS from CD-ROM, Trans & AIT
ADPE/Telecom Equipment	6.881	.150	7.031	.000	UICP Mod-HW from UICP Mod-SW
Software Development	11.479	4.237	15.716	.000	UICP Mod-SW to UICP Mod-HW CD-ROM, Trans & AIT to Minor Const & AMHS Add Cash Model, Adjust JLSC Legacy Sys
Minor Construction	1.200	.069	1.269	.000	Minor Const from CD-ROM, Trans & AIT
Total Capital Investment	27.315	4.606	31.921	.000	

Exhibit Fund 9d
Capital Budget Execution

Navy Working Capital Fund
Marine Corps Supply Management
FY 1999 Budget Estimates
Overview

BACKGROUND

The Marine Corps Supply Management Sub-Activity Group of the Navy Working Capital Fund (NWCF) is a revolving fund that procures consumable and reparable items for resale to Department of Defense (DOD) and non-DOD customers. Reimbursement provided at the time material is issued provides the resources with which this activity group replaces items in the inventory and funds the cost of operations. This inventory, in turn, is sold and the acquired funding is used to replenish stock. The revolving fund concept, in concert with unit cost authority, allow managers to stock and sell material to meet customer demands and maintain inventory at appropriate levels.

Marine Corps Supply Management consists of both retail and wholesale operations. Retail operations perform primarily under the Direct Support Stock Control (DSSC) concept. Under this concept, fast-moving items in support of base/station functions are stocked at issue points close to the customer. Currently, the Marine Corps operates at nine such DSSC activities. The transition to Direct Vendor Delivery (DVD) for the Marine Corps mess halls was completed in FY 1997. In addition to the DSSCs, the Marine Corps manages one Inventory Control Point (ICP). As the wholesale component of the supply management business area, the ICP supplies Marine Corps managed consumable and reparable items to Fleet Marine Force (FMF) and other customers.

This budget submission builds on changes initiated a year ago. With an eye toward streamlining processes, eliminating duplication of effort, and improving efficiency, this budget extends restructuring in the area of subsistence, brings to closure the realignment of assets in the area of amphibious supplies, and revises projections associated with the capitalization of Critical Low Density (CLD) and war reserve reparables. A brief recap of all budget projects included in this submission follows:

(1) **Subsistence** - In FY 1997, this budget project procured perishable and nonperishable food items for dining facilities and cold weather rations held as war reserve stocks in Norway. Full implementation of Direct Vendor Delivery (DVD) procedures at Marine Corps mess halls combined with the anticipated transfer of cold weather rations from the Marine Corps to the Defense Logistics Agency (DLA) will eliminate operations in this element of the activity group by the end of FY 1998.

(2) **Retail Supplies** - This budget project procures a full range of retail supply items (less bulk fuel) from DLA, General Services Administration (GSA), other Services, and local suppliers/vendors. The Retail Centrally Managed (RCM) element of this budget project procures other integrated managed items for provisioning of initial spares to support new principal end

items for issue to the operating forces. In addition, the RCM procures assets to support special projects, as directed by Headquarters, Marine Corps and Marine Corps Systems Command.

(3) **Fuel** - This budget project procures bulk fuel and related items used in heating plants and ground vehicles.

(4) **Amphibious Supplies** - During FY 1997, the financial management responsibility for all peacetime Marine Corps managed consumables was transferred to DLA. The benefits of this strategy are twofold, allowing us to take advantage of DLA's ability to perform material management functions and providing us the opportunity to fully concentrate on *obtaining*, rather than *performing*, the best possible support for our Corps. This effort was concluded under the auspices of the Consumable Item Transfer (CIT) program.

(5) **Depot Level Reparables** - Currently, this budget project procures 979 Marine Corps managed non-Critical Low Density (non-operating forces). It also provides for the repair of Marine Corps managed non-CLD reparables and other service managed reparables for which the Marine Corps has the authority to stock, store, issue and repair. Effective FY 1998, the scope of this budget project will be expanded to include the procurement of CLD reparables as well as the management of war reserve material. The Marine Corps plan includes a two year transition period from the current "free issue" method to the proposed "cash based" method. This transition period is based on lead times for the material involved and is consistent with direction included in Program Budget Decision 442, Navy Business Operations Fund, dated 14 December 1991

(4) **Cost of Operations** - This budget project includes those Inventory Control Point costs associated with the management of Marine Corps managed secondary items.

BUDGET HIGHLIGHTS

WORKLOAD

Workload in Supply Management is wholesale and retail net sales. This submission reflects a net sales decrease of $0.9 million or 0.5% between FY 1997 and FY 1999. The following chart depicts wholesale and retail net sales for each fiscal year of this submission.

Wholesale and Retail Net Sales: **$MILLIONS**

Description	FY 1997	FY 1998	FY 1999
Wholesale	$48.0	$45.0	$57.9
Retail	$124.1	$117.2	$113.3
Total Net Sales	$172.1	$142.2	$171.2

Retail Sales / Obligations / Unit Cost:
The following chart illustrates FY 1997 through FY 1999 retail sales, obligations and unit costs.

$MILLIONS

Description	FY 1997	FY 1998	FY 1999
Retail:			
Gross Sales	$125.0	$117.2	$113.3
Creditable Returns	$0.9	$0.0	$0.0
Net Sales	$124.1	$117.2	$113.3
Obligations	$112.7	$114.9	$110.5
Unit Cost	0.91	0.98	0.98

Variations in requested retail unit cost authority are due to several factors. Whereas DSSC obligations to sales ratios are normally one-for-one, the relationship between obligations and sales in the Retail Centrally Managed program varies between fiscal years. The nature of the RCM function, a special program area, may require the procurement of long-lead time items, where the buy-in of assets will occur in one fiscal year while the sale may not happen until eighteen to twenty-four months later. Further, transfer of cold weather rations management to DLA in FY 1998 and the FY 1997 draw down of mess hall inventory in conjunction with Direct Vendor Delivery implementation, are factors behind the unit cost in these fiscal years. With the balance of DSSC inventory levels approximating two months on hand in any given year, receipt of unit cost goals outlined in this submission is essential if the Marine Corps is to sustain minimum essential operating levels at our bases and stations.

Wholesale Sales / Obligations / Unit Cost:

The following chart illustrates FY 1997 through FY 1999 wholesale sales, obligations and unit costs.

$MILLIONS

Description	Estimated FY 1997	Estimated FY 1998	Estimated FY 1999
Wholesale			
Gross Sales	$44.8	$44.1	$59.1
Creditable Returns	($1.2)	$1.1	$1.2
Net Sales	$48.0	$45.0	$57.9
Obligations	$37.0	$43.7	$42.4
Unit Cost	0.74	0.97	0.74

Variations in requested unit cost are due to several factors, among them the completion of procurement actions related to pipeline buys for Marine Corps managed consumables and the capitalization of CLD reparables. Estimated FY 1998 and FY 1999 obligations include the required procurement dollars needed to stock fund CLD reparables. Since the Marine Corps plan

includes a two year transition period from the current "free issue" method to the proposed "cash based" method, sale of CLDs will commence in FY 2000. This transition period is based on lead times for the material involved.

ECONOMIC ASSUMPTIONS / PERFORMANCE INDICATORS

Supply Material Availability

Since the primary function of the Marine Corps Supply Management Activity Group is to sell material to customers, success is measured by how well and how quickly customer demands are satisfied. A key indicator is the Fill Rate or Supply Availability Rate. Fill Rate is the percentage of demands processed by the supply system without interruption at initial processing. Data are extracted from the Military Supply and Transportation and Evaluation Procedures System. While there is no established supply effectiveness standard for the Marine Corps wholesale system, 85 percent supply availability is currently considered the goal. The following chart displays fill rate goals for FY 1997 through FY 1999:

Fill Rates (%):

Description	**FY 1997**	**FY 1998**	**FY 1999**
Reparables	79	80	85

Number Of Items Managed:

Description	**FY 1997**	**FY 1998**	**FY 1999**
Reparables			
CLD	0	2,777	2,777
Non-CLD	979	979	979

Description	**FY 1997**	**FY 1998**	**FY 1999**
Customer Rate (%)	24.19	43.75	45.83

Description	**FY 1997**	**FY 1998**	**FY 1999**
Customer Rate Change (%)	-11.42	18.07	3.61

Description	**FY 1997**	**FY 1998**	**FY 1999**
Requisitions Received ($ Millions)	44.9	54.4	58.4

Description	**FY 1997**	**FY 1998**	**FY 1999**
Contracts Executed	33	98	98

Personnel (End Strength):	**FY 1997**	**FY 1998**	**FY 1999**
Civilians	43	55	48
Military	0	0	0

Purchase Inflation (%):

Description	FY 1997	FY 1998	FY 1999
Rate	1.4	1.5	1.6

Material Replacement Factors (%):

Description	FY 1997	FY 1998	FY 1999
Retail Operations	90	100	100
Wholesale Operations	1	8	3

Inventories

Inventories in this submission include both Peacetime Operating Stocks (POS) and war reserve material and consist of both consumable and reparable items. Currently, peacetime stocks include mess hall items, clothing, hardgoods, fuel, provisioning and replenishment spares, and special project assets such as bulk fuel component parts. Likewise, at the present time, mobilization stocks include cold weather rations in Norway, uniform clothing items for recruits and reservists, and consumable items for Fleet Marine Force (FMF) units. As noted elsewhere, restructuring of the subsistence, amphibious supply, and depot level reparable programs is changing the composition of stockage levels. The impact of these changes is reflected in the following display of peacetime inventory. Data are at standard unit price.

Peacetime Operating Stock (POS) Inventory:

		$MILLIONS	
Description	FY 1997	FY 1998	FY 1999
Retail	$133.9	$ 71.2	$ 70.9
Wholesale	$435.5	$491.1	$444.5
Total	$549.4	$542.3	$517.4

Projected retail inventory reductions are primarily the result of the buy-out of special project and initial issue provisioning assets from the RCM program; draw down of mess hall inventory, decapitalization of cold weather rations to DLA, and aggressive plans to eliminate excess inventory. Wholesale inventory growth between FY 1997 and FY 1998 is due to the capitalization of CLD reparables.

Net Operating Result (NOR)/Accumulated Operating Result (AOR) The NOR portrayed in each fiscal year of this submission is primarily the result of Marine Corps retail operations. Retail obligations are included in the cost of material sold from inventory. AOR is based on current and prior year operating results, AOR redistribution and cash factors.

$MILLIONS

Description	FY 1997	FY 1998	FY 1999
Revenue	$147.1	$162.2	$171.2
Expenses	$157.4	$157.5	$154.1
- Cost of Goods Sold (Non-Add)	($151.4)	($149.5)	($145.3)
Cash Recovery	$0.0	$1.4	$0.5
Net Operating Result	+$9.7	+$3.1	+$16.6
Prior Year AOR	+$31.1	+$40.8	+$43.9
AOR Redistribution	--	--	--
Cash Factor	--	--	-$60.5
Accumulated Operating Result	+$40.8	+$43.9	$0.0

NAVY WORKING CAPITAL FUND
SUPPLY MANAGEMENT - MARINE CORPS
REVENUE AND EXPENSES
(Dollars in Millions)
Fund 14

January 1998	FY 1997	FY 1998	FY 1999
Revenue:			
Net Sales:			
Operations	167.1	162.2	171.2
Capital Surcharge	0.0	0.0	0.0
Depreciation except Maj Const	0.0	0.0	0.0
Major Construction Depreciation	0.0	0.0	0.0
Other Income	0.0	0.0	0.0
Refunds/Discounts	0.0	0.0	0.0
Total Income	167.1	162.2	171.2
Expenses:			
Cost of Materiel Sold from Inventory	151.4	149.5	145.3
Salaries and Wages:			
Military Personnel Compensation & Benefits	0.0	0.0	0.0
Civilian Personnel & Compensation & Benefits	3.0	2.7	2.4
Travel & Transportation of Personnel	0.0	0.1	0.1
Materials & Supplies (For internal Operations)	0.0	0.0	0.0
Equipment	0.0	0.0	0.0
Other Purchases from Revolving Funds	0.0	0.0	0.0
Transportation of Things	0.1	0.1	0.1
Depreciation - Capital	0.0	0.0	0.0
Printing and Reproduction	0.0	0.0	0.0
Advisory and Assistance Services	0.0	0.0	0.0
Rent, Communication, Utilities, & Misc. Charges	0.3	0.3	0.3
Other Purchased Services	2.6	4.8	5.9
Total Expenses	157.4	157.5	154.1
Operating Result	9.7	4.7	17.1
Less Capital Surchg Reservation	0.0	0.0	0.0
Plus Appropriations Affecting NOR/AOR	0.0	0.0	0.0
Other Changes Affecting NOR/AOR	0.0	0.0	0.0
Navy Cash Recovery	0.0	1.6	0.5
Net Operating Result	9.7	3.1	16.6
Other Changes Affecting AOR			
Prior Year AOR	31.1	40.8	43.9
AOR Redistribution	0.0	0.0	0.0
Cash Factor	0.0	0.0	-60.5
Accumulated Operating Result	40.8	43.9	0.0

Source of Revenue
Summary
(Dollars in Millions)

Marine Corps/Supply Management	FY 1997	FY 1998	FY 1999
1a. New Orders from DoD Components:			
Own Component			
Military Personnel, M.C.	48.9	36.5	36.1
O & M, M.C.	64.0	74.2	54.5
O & M, M.C. Reserve	1.7	0.9	0.9
Reserve Personnel, M.C.	5.3	4.7	4.7
Procurement, M.C.	19.3	22.6	36.3
Other Service (O&M)			
Army	1.3	1.0	1.0
Air Force	0.8	0.5	0.5
Navy	3.1	1.4	1.4
All Other DOD	1.3	2.9	3.0
Subtotal	145.7	144.7	138.4
1b. Orders from other Fund Business Areas:			
Navy Supply Management	0.0	0.4	0.4
M.C. Depot Maintenance	6.5	6.7	6.6
Subtotal	6.5	7.1	7.0
1c. Total DoD	152.2	151.8	145.4
1d. Other Orders:			
Other Federal Agencies	0.0	0.1	0.1
Foreign Military Sales	0.8	1.3	1.3
Non Federal Agencies	4.2	4.0	4.0
Subtotal	5.0	5.4	5.4
2. Carry-In Orders	14.1	13.6	21.1
3. Total Gross Orders:	171.3	170.8	171.9
4. Funded Carry-over:	13.6	21.1	20.6
5. Total Gross Sales:	171.8	163.3	172.4

Changes in the Costs of Operations
Component: Marine Corps
Activity Group: Supply Management
(DOLLARS IN MILLIONS)

January 1998

	Obligations
FY 1997 Actuals	149.7
FY 1998 Estimate in the FY 1998 President's Budget	143.4
Estimated Impact in FY 1998 of Actual FY 1997 Experience:	
Material Procurement	
Pricing Adjustment:	
Material Procurement	
Retail Operations	
Retail Supplies	
Fuel	
Program Changes:	
Material Procurement	
Retail Operations	
Retail Supplies	8.6
Fuel	
Wholesale Operations	
Amphibious Supplies CIT Pipeline	1.2
Depot Level Reparables	6.0
Cost of Operations	
Civilian Personnel Compensation	-0.3
Reimbursement to Distribution Depots	
Transportation	
Other Costs	-0.3
CPP Authority for various JLSC systems	0.8
FY 1998 Current Estimate:	159.4

Component: Marine Corps
Activity Group: Supply Management
(DOLLARS IN MILLIONS)

January 1998

	Obligations
FY 1998 Current Estimate:	159.4
Pricing Adjustment:	
Material Procurement	
Retail Operations	
Retail Supplies	-0.1
Fuel	-1.6
Cost of Operations	
Civilian Personnel Compensation	
Reimbursement to Distribution Depots	0.8
Transportation	
Other Costs	
Program Changes:	
Material Procurement	
Retail Operations	
Retail Supplies	-2.7
Fuel	
Wholesale Operations	
Amphibious Supplies CIT Pipeline	-1.2
Depot Level Reparables	-2.6
Cost of Operations	
Civilian Personnel Compensation	-0.3
Reimbursement to Distribution Depots	
Transportation	
Other Costs	1.2
FY 1999 Estimate:	152.9

January 1998

MARINE CORPS
BUDGET PROJECT 38
(DOLLARS IN MILLIONS)
FY 1997

PRODUCT	----PROCURED FROM DFSC---- Barrels	U/P	Ext Cost	----PROCURED BY SERVICE---- Barrels	U/P	Ext Cost	STABILIZED PRICE
JP5	0.0	$33.18	0.1		$0.00	0.0	$33.18
JP4		$0.00	0.0		$0.00	0.0	$0.00
Propane		$0.00	0.0	0.0	$0.93	0.0	$0.00
Distillates	0.2	$31.08	5.7		$0.00	0.0	$31.08
MOGAS Lead		$38.22	0.0		$0.00	0.0	$38.22
MOGAS Unlead	0.1	$31.08	2.2		$0.00	0.0	$31.08
Residual	0.1	$18.90	1.1		$0.00	0.0	$18.90
Kerosene	0.0	$31.08	0.0	0.0	$71.40	0.0	$31.08
Other		$0.00	0.0		$24.15	0.0	$0.00
Coal	0.0	$51.23	0.7		$0.00	0.0	$51.23
Diesel	0.2	$28.98	6.3		$0.00	0.0	$28.98
TOTAL	0.5		16.1	0.0		0.0	

16.1

January 1998

MARINE CORPS
BUDGET PROJECT 38
(DOLLARS IN MILLIONS)
FY 1998

PRODUCT	PROCURED FROM DFSC Barrels	PROCURED FROM DFSC U/P	PROCURED FROM DFSC Ext Cost	PROCURED BY SERVICE Barrels	PROCURED BY SERVICE U/P	PROCURED BY SERVICE Ext Cost	STABILIZED PRICE
JP5	0.0	$39.06	0.1		$0.00	0.0	$39.06
JP4		$0.00	0.0		$0.00	0.0	$0.00
Propane		$0.00	0.0	0.0	$0.93	0.0	$0.00
Distillates	0.1	$36.96	5.2		$0.00	0.0	$36.96
MOGAS Lead		$44.94	0.0		$0.00	0.0	$44.94
MOGAS Unlead	0.1	$36.96	2.6		$0.00	0.0	$36.96
Residual	0.1	$23.10	1.6		$0.00	0.0	$23.10
Kerosene		$0.00	0.0	0.0	$81.88	0.1	$0.00
Other		$0.00	0.0	0.0	$24.15	0.1	$0.00
Coal	0.0	$52.20	1.2		$0.00	0.0	$52.20
Diesel	0.2	$34.86	7.3		$0.00	0.0	$34.86
TOTAL	0.5		18.1	0.0		0.2	
				18.3			

January 1998

MARINE CORPS
BUDGET PROJECT 38
(DOLLARS IN MILLIONS)
FY 1999

PRODUCT	PROCURED FROM DFSC			PROCURED BY SERVICE			STABILIZED PRICE
	Barrels	U/P	Ext Cost	Barrels	U/P	Ext Cost	
JP5	0.0	$35.70	0.1		$0.00	0.0	$35.70
JP4		$0.00	0.0		$0.00	0.0	$0.00
Propane		$0.00	0.0	0.0	$0.93	0.0	$0.00
Distillates	0.1	$33.60	4.9		$0.00	0.0	$33.60
MOGAS Lead		$41.16	0.0		$0.00	0.0	$41.16
MOGAS Unlead	0.1	$33.60	2.4		$0.00	0.0	$33.60
Residual	0.1	$21.00	1.3		$0.00	0.0	$21.00
Kerosene		$0.00	0.0	0.0	$81.88	0.1	$0.00
Other		$0.00	0.0	0.0	$24.15	0.1	$0.00
Coal	0.0	$52.20	1.1		$0.00	0.0	$52.20
Diesel	0.2	$31.92	6.7		$0.00	0.0	$31.92
TOTAL	0.5		16.5	0.0		0.2	
				16.7			

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUPPLY MANAGEMENT
(DOLLARS IN MILLIONS)
TOTAL PROGRAM SUMMARY

DIVISION	PEACETIME INVENTORY	NET CUSTOMER ORDERS	NET SALES	OBLIGATION TARGETS			TOTAL OBLIGATION	COMMITMENT TARGET	TARGET TOTAL	CREDIT SALES
				OPERATING	MOBILIZATION	OTHER				
FY 97										
Approved	253.7	184.6	173.7	144.9	0.0	0.0	144.9	3.9	148.8	0.9
Request	569.4	171.6	172.1	149.7	0.0	0.0	149.7	3.9	153.6	(0.3)
Delta	315.7	(13.0)	(1.6)	4.8	0.0	0.0	4.8	0.0	4.8	(1.2)
FY 98										
Approved	356.6	162.7	161.8	143.4	0.0	0.0	143.4	3.9	147.3	1.3
Request	562.3	169.7	162.2	158.6	0.0	0.0	158.6	3.9	162.5	1.1
Delta	205.7	7.0	0.4	15.2	0.0	0.0	15.2	0.0	15.2	(0.2)
FY 99										
Approved	313.0	153.8	155.0	150.5	0.0	0.0	150.5	3.9	154.4	1.4
Request	517.4	170.7	171.2	152.9	0.0	0.0	152.9	3.9	156.8	1.2
Delta	204.4	16.9	16.2	2.4	0.0	0.0	2.4	0.0	2.4	(0.2)

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUMMARY
FY 1997
(Dollars in Millions)

DIVISION	PEACETIME INVENTORY	NET CUSTOMER ORDERS	NET SALES	OBLIGATION TARGETS OPERATING	MOBILIZATION	OTHER	TOTAL OBLIGATION	COMMITMENT TARGET	TARGET TOTAL	CREDIT SALES
BP 21										
Approved	0.0	11.5	11.5	9.5	0.0	0.0	9.5	0.0	9.5	0.0
Request	(19.4)	18.0	18.0	9.2	0.0	0.0	9.2	0.0	9.2	0.3
Delta	(19.4)	6.5	6.5	(0.3)	0.0	0.0	(0.3)	0.0	(0.3)	0.3
BP 28										
Approved	76.4	86.8	86.8	83.0	0.0	0.0	83.0	0.0	83.0	0.2
Request	152.4	90.7	89.3	87.4	0.0	0.0	87.4	0.0	87.4	0.6
Delta	76.0	3.9	2.5	4.4	0.0	0.0	4.4	0.0	4.4	0.4
BP 38										
Approved	0.8	15.5	15.5	15.5	0.0	0.0	15.5	0.0	15.5	0.0
Request	0.9	16.8	16.8	16.1	0.0	0.0	16.1	0.0	16.1	0.0
Delta	0.1	1.3	1.3	0.6	0.0	0.0	0.6	0.0	0.6	0.0
BP 54										
Approved	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Request	42.0	1.5	1.5	4.1	0.0	0.0	4.1	0.0	4.1	0.0
Delta	42.0	1.5	1.5	4.1	0.0	0.0	4.1	0.0	4.1	0.0
BP 84										
Approved	176.5	70.8	59.9	31.0	0.0	0.0	31.0	3.9	34.9	0.7
Request	393.5	44.6	46.5	27.3	0.0	0.0	27.3	3.9	31.2	(1.2)
Delta	217.0	(26.2)	(13.4)	(3.7)	0.0	0.0	(3.7)	0.0	(3.7)	(1.9)
			Repair	11.3						
BP 91										
Approved	0.0	0.0	0.0	5.9	0.0	0.0	5.9	0.0	5.9	0.0
Request	0.0	0.0	0.0	5.6	0.0	0.0	5.6	0.0	5.6	0.0
Delta	0.0	0.0	0.0	(0.3)	0.0	0.0	(0.3)	0.0	(0.3)	0.0
TOTAL										
Approved	253.7	184.6	173.7	144.9	0.0	0.0	144.9	3.9	148.8	0.9
Request	569.4	171.6	172.1	149.7	0.0	0.0	149.7	3.9	153.6	(0.3)
Delta	315.7	(13.0)	(1.6)	4.8	0.0	0.0	4.8	0.0	4.8	(1.2)

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUMMARY
FY 1998
(Dollars in Millions)

DIVISION	PEACETIME INVENTORY	NET CUSTOMER ORDERS	NET SALES	OBLIGATION TARGETS OPERATING	MOBILIZATION	OTHER	TOTAL OBLIGATION	COMMITMEN TARGET	TARGET TOTAL	CREDIT SALES
BP 21										
Approved	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Request	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BP 28										
Approved	70.5	90.1	90.1	88.1	0.0	0.0	88.1	0.0	88.1	0.2
Request	70.5	97.9	98.9	96.6	0.0	0.0	96.6	0.0	96.6	0.0
Delta	0.0	7.8	8.8	8.5	0.0	0.0	8.5	0.0	8.5	(0.2)
BP 38										
Approved	1.0	18.2	18.2	18.2	0.0	0.0	18.2	0.0	18.2	0.0
Request	0.7	18.3	18.3	18.3	0.0	0.0	18.3	0.0	18.3	0.0
Delta	(0.3)	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0
BP 54										
Approved	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Request	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	1.2	0.0
Delta	0.0	0.0	0.0	1.2	0.0	0.0	1.2	0.0	1.2	0.0
BP 84										
Approved	285.1	54.4	53.5	31.0	0.0	0.0	31.0	3.9	34.9	1.1
Request	491.1	53.5	45.0	37.0	0.0	0.0	37.0	3.9	40.9	1.1
Delta	206.0	(0.9)	(8.5)	6.0	0.0	0.0	6.0	0.0	6.0	0.0
			Repair	14.3						
BP 91										
Approved	0.0	0.0	0.0	6.1	0.0	0.0	6.1	0.0	6.1	0.0
Request	0.0	0.0	0.0	6.3	0.0	0.0	6.3	0.0	6.3	0.0
Delta	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.2	0.0
TOTAL										
Approved	356.6	162.7	161.8	143.4	0.0	0.0	143.4	3.9	147.3	1.3
Request	562.3	169.7	162.2	159.4	0.0	0.0	159.4	3.9	163.3	1.1
Delta	205.7	7.0	0.4	16.0	0.0	0.0	16.0	0.0	16.0	(0.2)

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUMMARY
FY 1999
(Dollars in Millions)

DIVISION	PEACETIME INVENTORY	NET CUSTOMER ORDERS	NET SALES	OBLIGATION TARGETS OPERATING	OBLIGATION TARGETS MOBILIZATION	OBLIGATION TARGETS OTHER	TOTAL OBLIGATION	COMMITMENT TARGET	TARGET TOTAL	CREDIT SALES
BP 21										
Approved	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Request	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BP 28										
Approved	65.7	93.8	93.8	91.4	0.0	0.0	91.4	0.0	91.4	0.2
Request	70.2	96.6	96.6	93.8	0.0	0.0	93.8	0.0	93.8	0.0
Delta	4.5	2.8	2.8	2.4	0.0	0.0	2.4	0.0	2.4	(0.2)
BP 38										
Approved	0.9	17.4	17.4	17.4	0.0	0.0	17.4	0.0	17.4	0.0
Request	0.7	16.7	16.7	16.7	0.0	0.0	16.7	0.0	16.7	0.0
Delta	(0.2)	(0.7)	(0.7)	(0.7)	0.0	0.0	(0.7)	0.0	(0.7)	0.0
BP 54										
Approved	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Request	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BP 84										
Approved	246.4	42.6	43.8	35.4	0.0	0.0	35.4	3.9	39.3	1.2
Request	446.5	57.4	57.9	34.4	0.0	0.0	34.4	3.9	38.3	1.2
Delta	200.1	14.8	14.1	(1.0)	0.0	0.0	(1.0)	0.0	(1.0)	0.0
			Repair	11.7						
BP 91										
Approved	0.0	0.0	0.0	6.3	0.0	0.0	6.3	0.0	6.3	0.0
Request	0.0	0.0	0.0	8.0	0.0	0.0	8.0	0.0	8.0	0.0
Delta	0.0	0.0	0.0	1.7	0.0	0.0	1.7	0.0	1.7	0.0
TOTAL										
Approved	313.0	153.8	155.0	150.5	0.0	0.0	150.5	3.9	154.4	1.4
Request	517.4	170.7	171.2	152.9	0.0	0.0	152.9	3.9	156.8	1.2
Delta	204.4	16.9	16.2	2.4	0.0	0.0	2.4	0.0	2.4	(0.2)

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUPPLY MANAGEMENT
BY WEAPON SYSTEM/CATEGORY
AMPHIBIOUS SUPPLIES
FY 1997
(DOLLARS IN MILLIONS)

WEAPON SYSTEM	BASIC REPLEN	OUTFITS	SPECIAL PROGRAMS	BASIC REWORK	TOTAL
PIPELINE PROCUREMENTS	0.3				0.3
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL ORDNANCE TANK AUTOMOTIVE	0.3	0.0	0.0	0.0	0.3
	0.0	0.0	0.0	0.0	0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL COMMUNICATION AND ELECTRONICS	0.0	0.0	0.0	0.0	0.0
BULK FUEL PIPELINE PROCUREMENTS	3.6	0.0	0.0	0.0	3.6
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL ENGINEER SUPPORT AND CONSTRUCTION	3.6	0.0	0.0	0.0	3.6
PIPELINE PROCUREMENTS	0.1	0.0	0.0	0.0	0.1
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL GENERAL PROPERTY	0.1	0.0	0.0	0.0	0.1
TOTAL PROCUREMENT	4.0	0.0	0.0	0.0	4.0
TRANSPORTATION					0.0
TOTAL COST	4.0	0.0	0.0	0.0	4.0

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUPPLY MANAGEMENT
BY WEAPONS SYSTEM/CATEGORY
AMPHIBIOUS SUPPLIES
FY 1998
(DOLLARS IN MILLIONS)

WEAPON SYSTEM	BASIC REPLEN	OUTFITS	SPECIAL PROGRAMS	BASIC REWORK	TOTAL
PIPELINE PROCUREMENTS	0.2	0.0	0.0	0.0	0.2
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL ORDNANCE TANK AUTOMOTIVE	0.2	0.0	0.0	0.0	0.2
		0.0	0.0	0.0	0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL COMMUNICATION AND ELECTRONICS	0.0	0.0	0.0	0.0	0.0
PIPELINE PROCUREMENTS	0.9	0.0	0.0	0.0	0.9
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL ENGINEER SUPPORT AND CONSTRUCTION	0.9	0.0	0.0	0.0	0.9
	0.1	0.0	0.0	0.0	0.1
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL GENERAL PROPERTY	0.1	0.0	0.0	0.0	0.1
TOTAL PROCUREMENT	1.2	0.0	0.0	0.0	1.2
TRANSPORTATION	0.0				0.0
TOTAL COST	1.2	0.0	0.0	0.0	1.2

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUPPLY MANAGEMENT
BY WEAPONS SYSTEM/CATEGORY
AMPHIBIOUS SUPPLIES
FY 1999
(DOLLARS IN MILLIONS)

WEAPON SYSTEM	BASIC REPLEN	OUTFITS	SPECIAL PROGRAMS	BASIC REWORK	TOTAL
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL ORDNANCE TANK AUTOMOTIVE	0.0	0.0	0.0	0.0	0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL COMMUNICATION AND ELECTRONICS	0.0	0.0	0.0	0.0	0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL ENGINEER SUPPORT AND CONSTRUCTION	0.0	0.0	0.0	0.0	0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL GENERAL PROPERTY	0.0	0.0	0.0	0.0	0.0
TOTAL PROCUREMENT	0.0	0.0	0.0	0.0	0.0
TRANSPORTATION	0.0				0.0
TOTAL COST	0.0	0.0	0.0	0.0	0.0

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUPPLY MANAGEMENT
BY WEAPON SYSTEM/CATEGORY
DEPOT LEVEL REPARABLES
FY 1997
(DOLLARS IN MILLIONS)

WEAPON SYSTEM	BASIC REPLEN	OUTFITS	SPECIAL PROGRAMS	BASIC REWORK	TOTAL
BASIC REPLEN/REWORK	0.3			4.0	4.3
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL ORDNANCE TANK AUTOMOTIVE	0.3	0.0	0.0	4.0	4.3
JAVELIN		0.6			0.6
PEDESTAL MTD STINGER		0.4			0.4
ITEMS LESS $2M		0.7			0.7
BASIC REPLEN/REWORK	-1.0			2.4	1.4
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL GUIDED MISSILES AND EQUIPMENT	-1.0	1.7	0.0	2.4	3.1
TSC-96 PIP FLEET SATELLITE COMM TERM		0.6			0.6
NIGHT VISION EQUIPMENT		0.6			0.6
VEH MTD RADIO AN/TPC-120		1.5			1.5
UNIT LEVEL CIRCUIT SWITCH		0.2			0.2
SINCGARS		2.1			2.1
MOD KITS, TBM PIP, UPGRADE AN/TPS-59		5.1			5.1
COMM TACT TERMINAL (CTT)		2.6			2.6
TEAM PORTABLE COMM SYSTEM		0.9			0.9
TROJAN SPIRIT		0.6			0.6
AN/UAS 12C RADIO		0.3			0.3
MANPACK RADIO		1.5			1.5
BASIC REPLEN/REWORK	1.1			2.9	4.0
					0.0
					0.0
					0.0
TOTAL COMMUNICATION AND ELECTRONICS	1.1	16.0	0.0	2.9	20.0
BASIC REPLEN/REWORK	-0.1				-0.1
					0.0
					0.0
TOTAL ENGINEER SUPPORT AND CONSTRUCTION	-0.1	0.0	0.0	0.0	-0.1
					0.0
					0.0
TOTAL GENERAL PROPERTY	0.0	0.0	0.0	0.0	0.0
TOTAL PROCUREMENT	0.3	17.7	0.0	9.3	27.3
TRANSPORTATION					0.0
TOTAL COST	0.3	17.7	0.0	9.3	27.3

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January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUPPLY MANAGEMENT
BY WEAPON SYSTEM/CATEGORY
DEPOT LEVEL REPARABLES
FY 1998
(DOLLARS IN MILLIONS)

WEAPON SYSTEM	BASIC REPLEN	OUTFITS	SPECIAL PROGRAMS	BASIC REWORK	TOTAL
BASIC REPLEN/REWORK	1.9			5.7	7.6
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL ORDNANCE TANK AUTOMOTIVE	1.9	0.0	0.0	5.7	7.6
ITEMS LESS $2M-AIR DEF COMM PLATFORM		0.3			0.3
BASIC REPLEN/REWORK	2.6			2.5	5.1
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL GUIDED MISSILES AND EQUIPMENT	2.6	0.3	0.0	2.5	5.4
CONTINGENCY THEATER AUTO PLAN SYSTEM		0.1			0.1
COMM SWITCH & CTRL SYS		3.1			3.1
AIR OPS C2 SYS		2.4			2.4
FIREFINDER RADAR		2.4			2.4
INTELL SPT EQUIP		5.4			5.4
BASIC REPLEN/REWORK	3.1			4.5	7.6
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL COMMUNICATION AND ELECTRONICS	3.1	13.4	0.0	4.5	21.0
NBC RECONN SYSTEM		0.6			0.6
BASIC REPLEN/REWORK	0.4			1.6	2.0
					0.0
					0.0
					0.0
					0.0
TOTAL ENGINEER SUPPORT AND CONSTRUCTION	0.0	0.6	0.0	0.0	2.6
BASIC REPLEN/REWORK	0.4				0.4
					0.0
TOTAL GENERAL PROPERTY	0.4	0.0	0.0		0.4
TOTAL PROCUREMENT	8.0	14.3	0.0	12.7	37.0
TRANSPORTATION					0.0
TOTAL COST	8.0	14.3	0.0	12.7	37.0

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUPPLY MANAGEMENT
BY WEAPON SYSTEM/CATEGORY
DEPOT LEVEL REPARABLES
FY 1999
(DOLLARS IN MILLIONS)

WEAPON SYSTEM	BASIC REPLEN	OUTFITS	SPECIAL PROGRAMS	BASIC REWORK	TOTAL
DRIVER'S THERMAL VIEWER		0.9			0.9
BASIC REPLEN/REWORK	0.6			2.8	3.4
					0.0
					0.0
					0.0
					0.0
TOTAL ORDNANCE TANK AUTOMOTIVE	0.6	0.9	0.0	2.8	4.3
JAVELIN		1.1			1.1
BASIC REPLEN/REWORK	3.7			2.5	6.2
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL GUIDED MISSILES AND EQUIPMENT	3.7	1.1	0.0	2.5	7.3
MANEUVER C2 SYSTEMS					
RADIO SYSTEM		0.3			0.3
COMM SWITCH & CONTROL SYSTEM		0.9			0.9
MOD KITS, MEWSS PIP		5.0			5.0
INTEL SPT EQUIP		1.6			1.6
MOD KITS; INTEL TEAM PORTABLE COMM		5.0			5.0
		0.6			0.6
BASIC REPLEN/REWORK	2.3			4.7	7.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
TOTAL COMMUNICATION AND ELECTRONICS	2.3	13.4	0.0	4.7	20.4
HMMWV		0.1			0.1
RIVERINE ASSAULT CRAFT		0.1			0.1
BASIC REPLEN/REWORK	0.3			1.7	2.0
TOTAL ENGINEER SUPPORT AND CONSTRUCTION	0.3	0.2	0.0	1.7	2.2
BASIC REPLEN/REWORK	0.2				0.2
					0.0
TOTAL GENERAL PROPERTY	0.2	0.0	0.0	0.0	0.2
TOTAL PROCUREMENT	7.1	15.6	0.0	11.7	34.4
TRANSPORTATION					0.0
TOTAL COST	7.1	15.6	0.0	11.7	34.4

January 1998

NAVY WORKING CAPITAL FUND
INVENTORY STATUS
SUMMARY
(DOLLARS IN MILLIONS)
FISCAL YEAR 1997

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	527.1	156.1	299.8	71.2
2. BOP INVENTORY ADJUSTMENTS	7.5	6.6	1.1	(0.2)
A. RECLASSIFICATION CHANGE (memo)	0.0	0.0	0.0	0.0
B. PRICE CHANGE AMOUNT (memo)	7.5	6.6	1.1	(0.2)
C. INVENTORY RECLASSIFIED AND REPRICED	534.6	162.7	300.9	71.0
3. RECEIPTS AT STANDARD	143.7	3.0	140.7	0.0
4. SALES AT STANDARD	171.8	1.1	170.7	0.0
5. INVENTORY ADJUSTMENTS				
A. CAPITALIZATIONS + or (-)	(28.9)	(23.1)	(5.8)	0.0
B. RETURNS FROM CUSTOMERS FOR CREDIT	(0.3)	0.0	(0.3)	0.0
C. RETURNS FROM CUSTOMERS W/O CREDIT	59.4	(0.2)	3.0	56.6
D. RETURNS TO SUPPLIERS (-)	194.4	0.0	(6.0)	200.4
E. TRANSFERS TO PROP. DISPOSAL (-)	(34.5)	0.0	0.0	(34.5)
F. ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(138.6)	6.1	(68.4)	(76.3)
G. OTHER (list/explain)	127.3	(31.5)	222.3	(63.5)
H. TOTAL ADJUSTMENTS	178.8	(48.7)	144.8	82.7
6. INVENTORY EOP	685.3	115.9	415.7	153.7
7. INVENTORY EOP, REVALUED	344.1	97.5	223.0	23.6
A. ECONOMIC RETENTION (memo)				16.1
B. CONTINGENCY RETENTION (memo)				6.4
C. POTENTIAL DOD EXCESS (memo)				1.1
8. INVENTORY ON ORDER EOP (memo)	60.3	1.9	54.5	3.9

9. NARRATIVE:

Other adjustments (line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	127.3	(31.5)	222.3	(63.5)
K3 Adjust	0.0	0.0	0.0	0.0
SIT Change	0.0	0.0	0.0	0.0
Strata Transfers	0.0	0.0	0.0	0.0
	127.3	(31.5)	222.3	(63.5)

January 1998

NAVY WORKING CAPITAL FUND
INVENTORY STATUS
SUMMARY
(DOLLARS IN MILLIONS)
FISCAL YEAR 1998

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	685.3	115.9	415.7	153.7
2. BOP INVENTORY ADJUSTMENTS	45.5	2.4	35.0	8.1
A. RECLASSIFICATION CHANGE (memo)	0.0	0.0	0.0	0.0
B. PRICE CHANGE AMOUNT (memo)	45.5	2.4	35.0	8.1
C. INVENTORY RECLASSIFIED AND REPRICED	730.8	118.3	450.7	161.8
3. RECEIPTS AT STANDARD	138.9	1.9	137.0	0.0
4. SALES AT STANDARD	163.3	0.0	163.3	0.0
5. INVENTORY ADJUSTMENTS				
A. CAPITALIZATIONS + or (-)	158.4	34.4	94.1	29.9
B. RETURNS FROM CUSTOMERS FOR CREDIT	1.1	0.0	1.1	0.0
C. RETURNS FROM CUSTOMERS W/O CREDIT	135.5	0.0	4.7	130.8
D. RETURNS TO SUPPLIERS (-)	(23.0)	0.0	0.0	(23.0)
E. TRANSFERS TO PROP. DISPOSAL (-)	(10.5)	0.0	0.0	(10.5)
F. ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(149.0)	(1.4)	(41.9)	(105.7)
G. OTHER (list/explain)	(89.3)	14.0	(103.3)	0.0
H. TOTAL ADJUSTMENTS	23.2	47.0	(45.3)	21.5
6. INVENTORY EOP	729.5	167.2	379.0	183.3
7. INVENTORY EOP, REVALUED	524.8	126.7	268.8	129.3
A. ECONOMIC RETENTION (memo)				73.8
B. CONTINGENCY RETENTION (memo)				47.4
C. POTENTIAL DOD EXCESS (memo)				8.1
8. INVENTORY ON ORDER EOP (memo)	118.5	0.0	113.7	4.8

9. NARRATIVE:

Other adjustments (line 5g):	Total	Mobilization	Operating	Other
Other Gains/Losses	(89.3)	14.0	(103.3)	0.0
K3 Adjust	0.0	0.0	0.0	0.0
SIT Change	0.0	0.0	0.0	0.0
Strata Transfers	0.0	0.0	0.0	0.0
Total	(89.3)	14.0	(103.3)	0.0

NAVY WORKING CAPITAL FUND
INVENTORY STATUS
SUMMARY
(DOLLARS IN MILLIONS)
FISCAL YEAR 1999

	Total	Mobilization	---- Peacetime ---- Operating	Other
1. INVENTORY BOP	729.5	167.2	379.0	183.3
2. BOP INVENTORY ADJUSTMENTS	22.3	3.8	12.4	6.1
A. RECLASSIFICATION CHANGE (memo)	0.0	0.0	0.0	0.0
B. PRICE CHANGE AMOUNT (memo)	22.3	3.8	12.4	6.1
C. INVENTORY RECLASSIFIED AND REPRICED	751.8	171.0	391.4	189.4
3. RECEIPTS AT STANDARD	150.7	0.0	150.7	0.0
4. SALES AT STANDARD	172.4	0.0	172.4	0.0
5. INVENTORY ADJUSTMENTS				
A. CAPITALIZATIONS + or (-)	0.0	0.0	0.0	0.0
B. RETURNS FROM CUSTOMERS FOR CREDIT	1.2	0.0	1.2	0.0
C. RETURNS FROM CUSTOMERS W/O CREDIT	133.4	0.0	3.3	130.1
D. RETURNS TO SUPPLIERS (-)	(16.2)	0.0	0.0	(16.2)
E. TRANSFERS TO PROP. DISPOSAL (-)	(6.4)	0.0	(0.1)	(6.3)
F. ISSUES/RECEIPTS WITHOUT REIMBURSEMENT + or (-)	(137.8)	(1.4)	(18.1)	(118.3)
G. OTHER (list/explain)	(17.3)	0.0	(17.3)	0.0
H. TOTAL ADJUSTMENTS	(43.1)	(1.4)	(31.0)	(10.7)
6. INVENTORY EOP	687.0	169.6	338.7	178.7
7. INVENTORY EOP, REVALUED	490.2	128.1	237.8	124.3
A. ECONOMIC RETENTION (memo)				71.4
B. CONTINGENCY RETENTION (memo)				45.2
C. POTENTIAL DOD EXCESS (memo)				7.7
8. INVENTORY ON ORDER EOP (memo)	107.5	0.0	102.2	5.3

9. NARRATIVE:

Other adjustments (line 5f):	Total	Mobilization	Operating	Other
Other Gains/Losses	(17.3)	0.0	(17.3)	0.0
K3 Adjust	0.0	0.0	0.0	0.0
SIT Change	0.0	0.0	0.0	0.0
Strata Transfers	0.0	0.0	0.0	0.0
	(17.3)	0.0	(17.3)	0.0

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUPPLY MANAGEMENT
Customer Price Change
($ IN MILLIONS)

Consumables (BP 54)

	FY 1997	FY 1998	FY 1999
1. Net Sales at Cost	3.6	0.0	0.0
2. Less: Mat'l Inflation Adj.	0.0	0.0	0.0
3. Revised Net Sales	3.6	0.0	0.0
4. Surcharge	0.8	0.0	0.0
5. Change to Customers			
a. Previous Year's Surcharge (%)	43.7%	0.0%	0.0%
b. This year's Surcharge divided by line 3 above ($)	22.2%	0.0%	0.0%
c. Percent change to customer	-14.92%	0.00%	0.00%

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUPPLY MANAGEMENT
Customer Price Change
($ IN MILLIONS)

Depot Level Reparables (BP 84)

	FY 1997	FY 1998	FY 1999
Net Sales at Cost	17.9	20.3	19.2
2. Less: Mat'l Inflation Adj.	0.0	0.4	0.4
3. Revised Net Sales	17.9	19.9	18.8
4. Surcharge	4.4	8.9	8.8
5. Change to Customers			
a. Previous Year's Surcharge (%)	39.5%	24.6%	43.8%
b. This year's Surcharge divided by line 3 above ($)	24.6%	43.8%	45.8%
c. Percent change to customer	-10.69%	15.39%	3.61%

January 1998

NAVY WORKING CAPITAL FUND
MARINE CORPS SUPPLY MANAGEMENT
Customer Price Change
($ IN MILLIONS)

Composite (BP54 & BP84)
(Consumable & Reparable)

	FY 1997	FY 1998	FY 1999
1. Net Sales at Cost	21.5	20.3	19.2
2. Less: Mat'l Inflation Adj.	0.0	0.4	0.4
3. Revised Net Sales	21.5	19.9	18.8
4. Surcharge	5.2	8.9	8.8
5. Change to Customers			
a. Previous Year's Surcharge (%)	40.2%	24.2%	43.8%
b. This year's Surcharge divided by line 3 above ($)	24.2%	43.8%	45.8%
c. Percent change to customer	-11.42%	18.07%	3.61%

Business Area Capital Budget Summary
Component: Marine Corps
Activity Group: Supply Management
Date: January 1998
(DOLLARS IN MILLIONS)

Line Number	Item Description	FY 1997 Quantity	FY 1997 Total Cost	FY 1998 Quantity	FY 1998 Total Cost	FY 1999 Quantity	FY 1999 Total Cost
1a	Non-ADP Equipment (>500,000)	N/A	0.0	N/A	0.0	N/A	0.0
	Subtotal Equipment (>500,000)	N/A	0.0	N/A	0.0	N/A	0.0
1b	Non-ADP Equipment (>15,000<500,000)	N/A	0.0	N/A	0.0	N/A	0.0
	Subtotal Equipment (>15,000<500,000)	N/A	0.0	N/A	0.0	N/A	0.0
2a	Minor Construction (>15,000<300,000)	N/A	0.0	N/A	0.0	N/A	0.0
	Subtotal Minor Const (>15,000<300,000)	N/A	0.0	N/A	0.0	N/A	0.0
3a	ADP Equipment (>100,000)			N/A	0.0	N/A	0.0
	Subtotal ADP Equipment (>100,000)	N/A	0.0	N/A	0.0	N/A	0.0
3b	ADP Equipment (>15,000<100,000)						
	DON Cash Model License	N/A	0.0	1.0	0.008	1.0	0.004
	Subtotal ADP Equipment (>15,000<100,000)	N/A	0.0	1.0	0.008	1.0	0.004
4a	Telecommunications Equip (>15,000<100,000)	N/A	0.0	N/A	0.0	N/A	0.0
	Subtotal Telecomm Equip (>15,000<100,000)	N/A	0.0	N/A	0.0	N/A	0.0
4b	Off the Shelf Software (>15,000<100,000)	N/A	0.0	N/A	0.0	N/A	0.0
	Subtotal Off the Shelf (>15,000<100,000)	N/A	0.0	N/A	0.0	N/A	0.0
6c	Central Design Activity (Software>100,000)						
	Principal End Item Stratification	N/A	0.0	1.0	0.300	N/A	0.0
	Marine Corps Unified Material Management System	N/A	0.0	1.0	0.400	N/A	0.0
	Integrated Technical Item Management & Procurement Sys	N/A	0.0	1.0	0.100	N/A	0.0
	Subtotal CDA (Software>100,000)			3.0	0.800		
	GRAND TOTAL CAPITAL PURCHASE PROGRAM	0.0	0.0	N/A	0.808	N/A	0.004
7	Major Construction (MILCON)	N/A	0.0	N/A	0.0	N/A	0.0
	Major Construction (MILCON) Total - Non Add	N/A	0.0	N/A	0.0	N/A	0.0

MARINE CORPS SUPPLY MANAGEMENTACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION ($ in Thousands)							A. FY 1999 President's Budget		
B. Marine Corps/Supply Management/January 1998				C. Cash Model License			D. MC Supply		
	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
DON Cash Model	0	0	0	1	8	8	1	4	4

Narrative Justification:

Funding is required to purchase a cash model license for use in all Department of the Navy Working Capital Fund activities.

MARINE CORPS SUPPLY MANAGEMENTACTIVITY GROUP
CAPITAL INVESTMENT JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Marine Corps/Supply Management/January 1998				C. Line No. 14 - Principle End Item S			D. MC Supply		
	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
PEI Strat	0	0	0	1	300	300	0	0	0

Narrative Justification:

Principle End Item (PEI) stratification redesign effort will provide a shared data environment, compliant with Defense Information Infrastructure (DII) and Common Operating Environment (COE).

MARINE CORPS SUPPLY MANAGEMENTACTIVITY GROUP
CAPITAL INVESTMENT JUSTIFICATION
($ in Thousands)

A. FY 1999 President's Budget

B. Marine Corps/Supply Management/January 1998				C.MUMMS			D. MC Supply		
	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
MUMMS	0	0	0	1	400	400	0	0	0

Narrative Justification:

Marine Corps Unified Material Management System (MUMMS) redesign will provide a shared data environment and increase interoperability with other automated systems for inventory management within the Marine Corps, and will promote data sharing across the Department of Defense.

MARINE CORPS SUPPLY MANAGEMENTACTIVITY GROUP CAPITAL INVESTMENT JUSTIFICATION ($ in Thousands)							A. FY 1999 President's Budget		
B. Marine Corps/Supply Management/January 1998				C. ITIMP			D. MC Supply		
	FY 1997			FY 1998			FY 1999		
Element of Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
ITIMP	0	0	0	1	100	100	0	0	0

Narrative Justification:

Integrated Technicial Item Management and Procurement (ITIMP) will incorporate the enhanced ITIMP application into the Marine Corps business processes, providing an architecuture compliant with the Defense Information Infrastructure (DII) and the Common Operating Environment (COE).

Navy Working Capital Fund
Marine Corps Supply Management
FY 1997
FY 1999 President's Budget Estimate
(Dollars in Millions)

FY	Approved Project	Reprogs	Approved Proj Cost	Current Proj Cost	Asset/ Deficiency	Explanation
1997	**Equipment except ADPE and TELECOM**					
	N/A	0.000	0.000	0.000	0.000	
	Subtotal Equipment	**0.000**	**0.000**	**0.000**	**0.000**	
	Equipment - ADPE and TELECOM					
	Subtotal ADPE/TelCom	**0.000**	**0.000**	**0.000**	**0.000**	
	Software Development					
	Subtotal Software	**0.000**	**0.000**	**0.000**	**0.000**	
	Minor Construction					
	N/A	0.000	0.000	0.000	0.000	
	Subtotal Minor Construction	**0.000**	**0.000**	**0.000**	**0.000**	
	Total FY 1997	0.000	0.000	**0.000**	**0.000**	

Navy Working Capital Fund
Marine Corps Supply Management
FY 1998
FY 1999 President's Budget Estimate

FY	Approved Project	Reprogs	Approved Proj Cost	Current Proj Cost	Asset/ Deficiency	Explanation
1998	**Equipment except ADPE and TELECON**					
	N/A	0.000	0.000	0.000	0.000	
	Subtotal Equipment	**0.000**	**0.000**	**0.000**	**0.000**	
	Equipment - ADPE and TELECON					
	Subtotal ADPE/TelCom	**0.000**	**0.000**	**0.000**	**0.000**	
	Software Development					
	Cash Model License	0.000	0.000	0.008	(0.008)	Assigned as a pro-rata share of DON Cash Model
	PEI Strat			0.300	(0.300)	Standardization of data in support of a shared data environment.
	MUMMS			0.400	(0.400)	Standardize data, increase interoperability and move towards DII/COE.
	ITIMP			0.100	(0.100)	Enhance ITIMP to support business processes.
	Subtotal Software	**0.000**	**0.000**	**0.808**	**-0.808**	
	Minor Construction					
	N/A	0.000	0.000	0.000	0.000	
	Subtotal Minor Construction	**0.000**	**0.000**	**0.000**	**0.000**	
	Total FY 1998	**0.000**	**0.000**	**0.808**	**(0.808)**	

679

Navy Working Capital Fund
Marine Corps Supply Management
FY 1999
FY 1999 President's Budget Estimate

FY	Approved Project	Reprogs	Approved Proj Cost	Current Proj Cost	Asset/ Deficiency	Explanation
1999	**Equipment except ADPE and TELECOM**					
	N/A	0.000	0.000	0.000	0.000	
	Subtotal Equipment	**0.000**	**0.000**	**0.000**	**0.000**	
	Equipment - ADPE and TELECOM					
	Subtotal ADPE/TelCom	**0.000**	**0.000**	**0.000**	**0.000**	
	Software Development					
	Cash Model License	0.000	0.000	0.004	(0.004)	Assigned as a pro-rata share of DON Cash Model purchase
	Subtotal Software	**0.000**	**0.000**	**0.004**	**-0.004**	
	Minor Construction					
	N/A	0.000	0.000	0.000	0.000	
	Subtotal Minor Construction	**0.000**	**0.000**	**0.000**	**0.000**	
	Total FY 1999	**0.000**	**0.000**	**0.004**	**(0.004)**	